Zenza BRONICA® ETR

REPAIR MANUAL

ZENZA BRONICA IND., INC.

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1. Detachment of the Right Side Cover

How to Detach

1) Strip off two crank base covers (A257040) which are fixed to the surface of the crank base casting (A753320) with bonding agent and then loosen four fixing screws (B813605). Finally, detach the parts up to the crank ring set (A753340).
2) Strip off the leatherette on the multi-exposure lever (A256091), loosen the fixing screw and then detach the multi-exposure lever.
3) Strip the leatherette from around four screws or two B813357 and two B813287, loosen these four exposed screws and, finally, detach the right side cover (A755400).

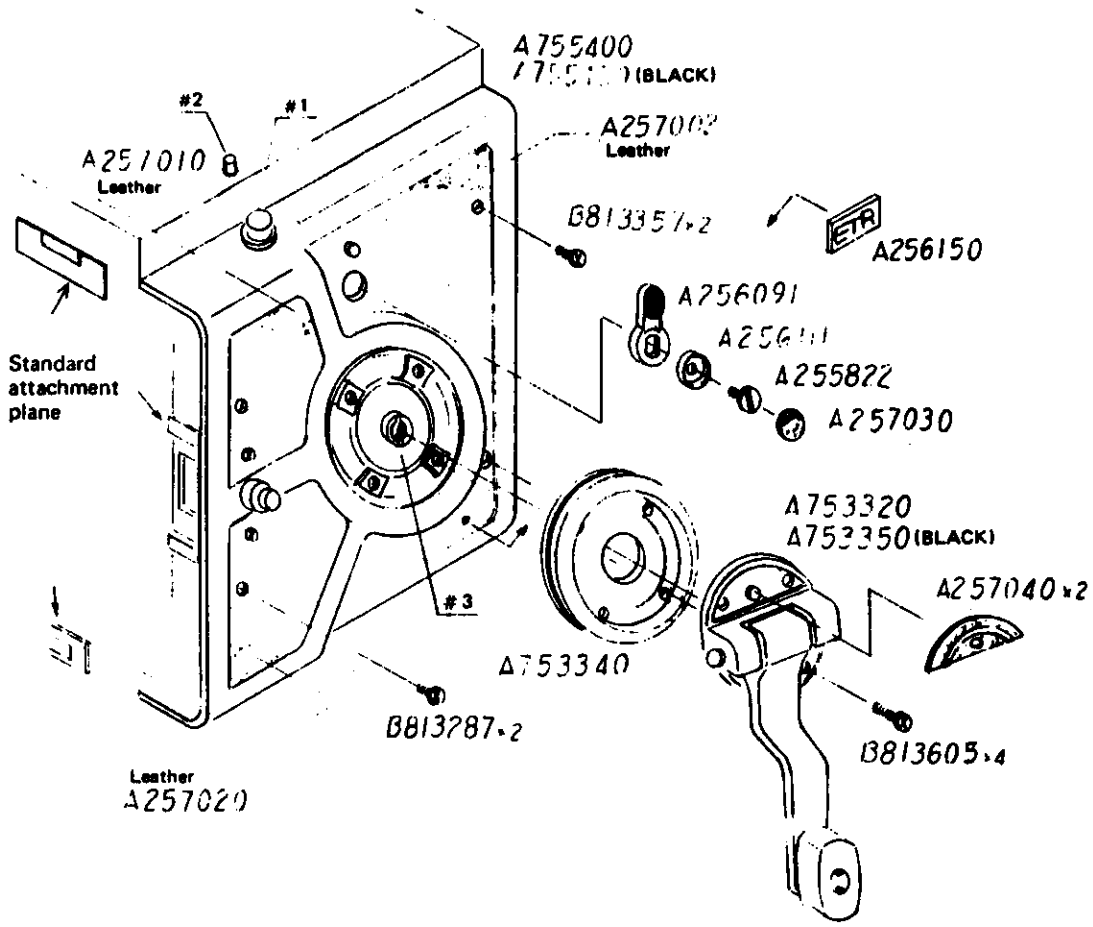
CAUTION:

The crank base covers are deformed rather easily and, therefore, it is recommended that spares always be held on hand for exchanging.

How to Attach

Attachment is in the reverse order of the above, but keep the following points in mind, when doing so:–

1) The right side cover should be located while depressing the finder locking pin (#2) in order that the pin can be located for coupling with the finder release button (#1).
2) The crank ring set must be positioned concentrically with the crank base casting, or with equal spacing all around it, in order to prevent contact with the right side cover which should, in turn, not protrude beyond the base surface (attachment of the film back will help in determining the location at this time and the winding crank should also be revolved to confirm positioning).

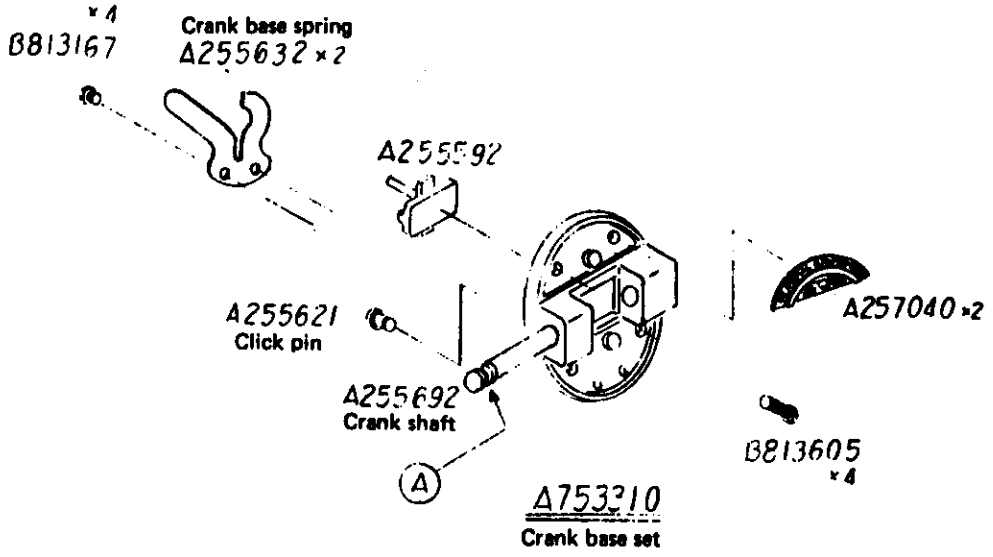


2. Film Winding Cranks Comes Off: Crank Shaft Slips Out Easily

The crank shaft (A255692) is securely fixed in position only when the click pin (A255621) is inserted fully in the groove (A) on the crank shaft.

1) Strip off the two crank base covers (A257040), loosen four fixing screws (B813605) and detach the crank base set (A753310). Next, bend the crank base spring (A255632) so that it exerts more pressure on the click pin.

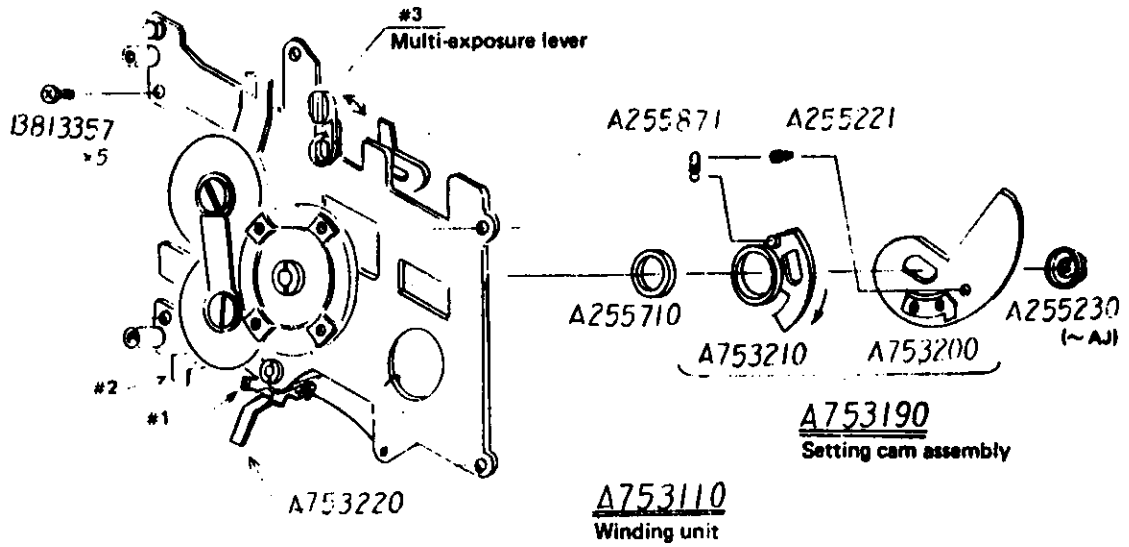
Fig. 1



3. Multiple Exposure is not Possible

The multiple exposure mechanism is activated by setting the multi-exposure lever (#3) or rotating it in the clockwise direction, which disconnects gears on the body side from those on the film back side, so that the film is no longer advanced with film winding crank action. At the same time, although the film is no longer being advanced, the multiple exposure mechanism stops the film winding and shutter charging action and permits shutter release when operations are completed on the body side only.
If multiple exposure is not possible, when set in the above manner, but becomes possible when the multi-exposure lever (#3) is reversed once (to normal single exposure operation) and then re-set for multiple exposure, the movement of the winding auxiliary plate (A753210) is defective. Winding is not possible, in the first instance because the winding claw (#1) engage the setting cam (A753200) even after the shutter is released.
Repair in the following manner: –

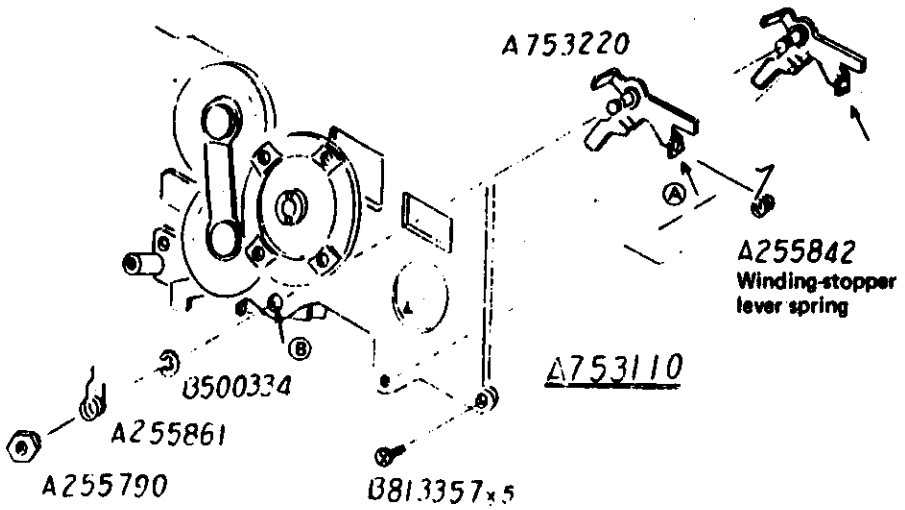
1) Detach the right side cover, loosen five B813357 screws and take out the winding unit (A753110).
2) Detach the cam holding nut (A255230) and then detach the setting cam assembly (A753190). Finally, replace with a new setting cam assembly.
3) When reattaching the winding unit in the body, see that the winding stopper lever (A753220) and #2 engage with the F. (film) release unit. (See Exchanging the Film Release Unit on page 8.)



4. Winding Action does not Stop: Winding Stopper Lever Spring is Unhooked

Load a test roll film in the film back and manipulate the winding crank (and advance the film and charge the shutter) for taking the first frame. Then, detach the film back and check whether the F. (film) release pin (A260990) is protruding up to the front end of the F. release cylinder A (A260952) (see page 33). If the pin is not protruding correctly, correct according to "Film Back – 6. Winding Action does not Stop".

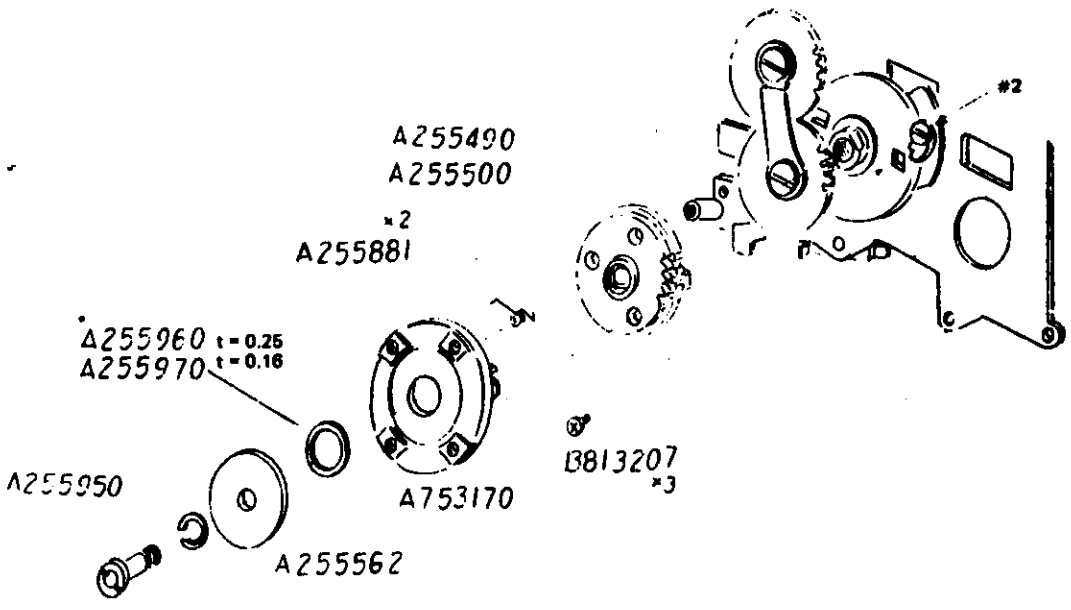
1) Detach the right side cover. If the winding stopper lever spring is unhooked, it will be quite all right to hook it up once more but since it is liable to get unhooked again, it is recommended that the following repair be undertaken.
2) Loosen five B813357 screws and detach the winding unit (A753110).
3) Loosen the winding stopper claw spring holder (A255790) with the special screwdriver (A255790-AJ), take off the snap ring "type E" (B500334) and, then, detach the winding stopper lever (A753220).
4) Obtain a new winding stopper lever replacement part (which has a round opening in the place indicated by the (A) arrow) and assemble it into the body. When using the new replacement part, however, enlarge the opening on the winding base plate assembly, as indicated by (B) arrow, to 2 mm diameter.
5) Refer to page 8 for reattachment of the winding unit.



5. Winding Crank is very Loose: Main Shaft Setscrew is Loose

Strip off the crank base covers (A257040) and check whether the B813605 screws are loose or not. (See page 1.)

1) If looseness in the winding wheel (A753170) can be corrected by tightening the main shaft setscrews (A255572), detach the setscrew, apply Loc-Tite to the threads and re-tighten the main shaft setscrew securely once more.



6. Winding Action is not Possible: Transmission Gear is Cracked

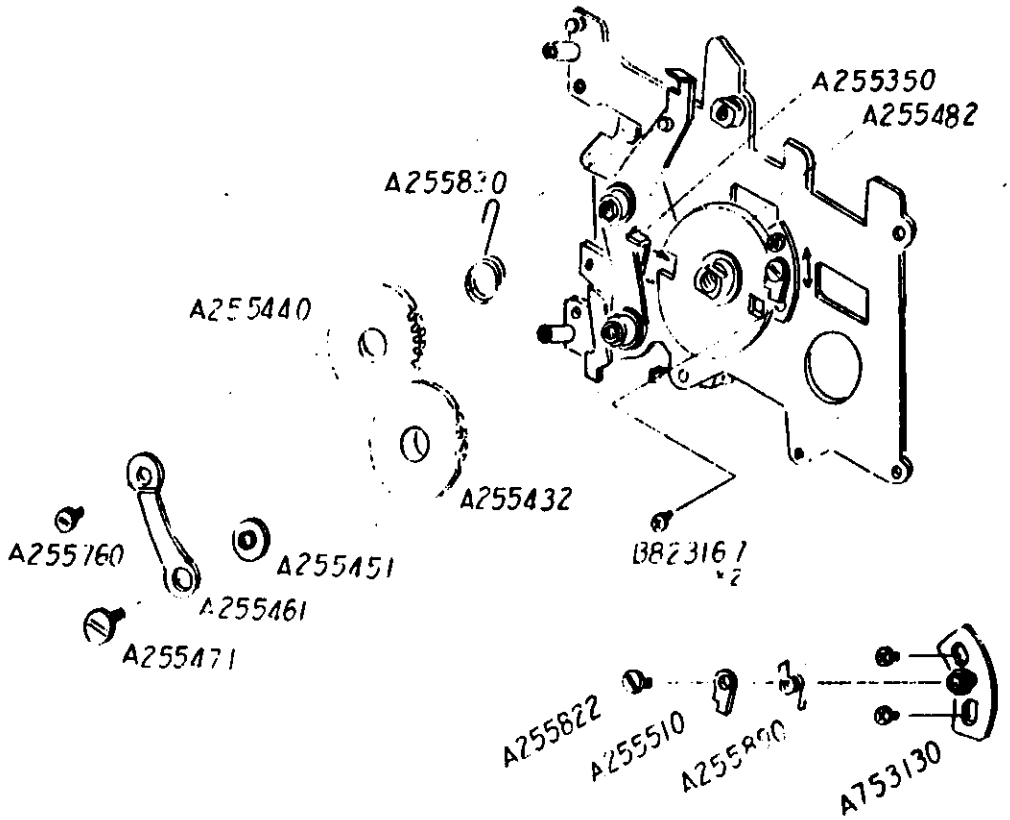
If the cracked transmission gear (A255432) is a white-colored plastic one, exchange it for a metal replacement part.

1) Loosen the connecting gear screw (A255760) and left hand gear arm screw (A255471), detach the upper connecting gear arm (A255461) and exchange the transmission gear.

7. Shutter Release Button cannot be Depressed: Reverse Stopping Claw is Positioned Incorrectly

When the shutter release button is depressed, after completion of the film winding crank action, the upper release safety lever (A255350) should fall into the notched section on the release safety cam (A255482) which will release the shutter. In other words, if the lever is not in the notched section but positioned elsewhere, the shutter cannot be released when the shutter release button is depressed.

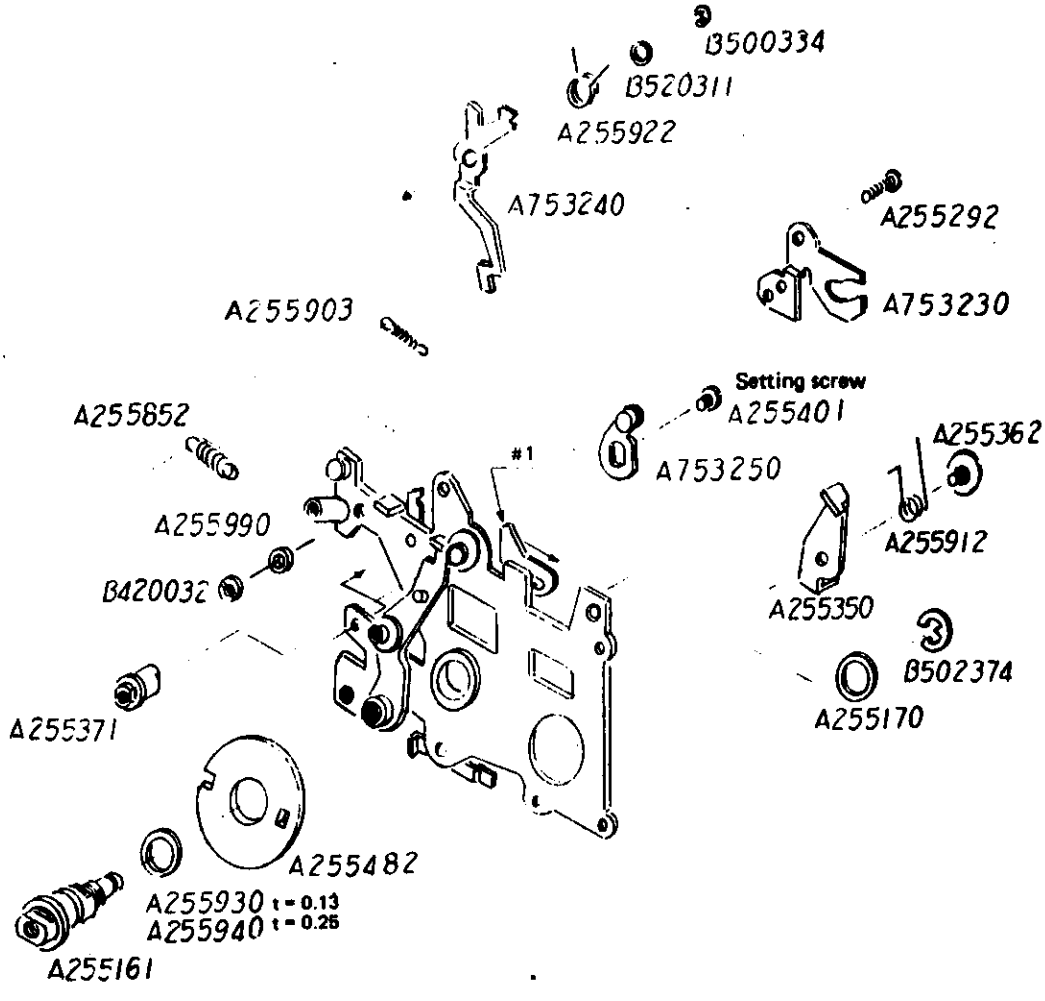
1) Loosen the B823167 screws and adjust the reverse stopping claw mount (A753130) so that the upper release safety lever falls into the notched section on the release safety cam.
Confirm that the same action also takes place when the winding crank is rotated in the reverse direction, too.



8. Multiple Exposure is not Possible: Setting Screw is Loose

The multi-exposure lever (see page 1) rotates the multi-set lever (A753250) via the multi-lever axle (A255371) and, thereby, pushes the multi-exposure link (#1) forward or in the direction of the lens.

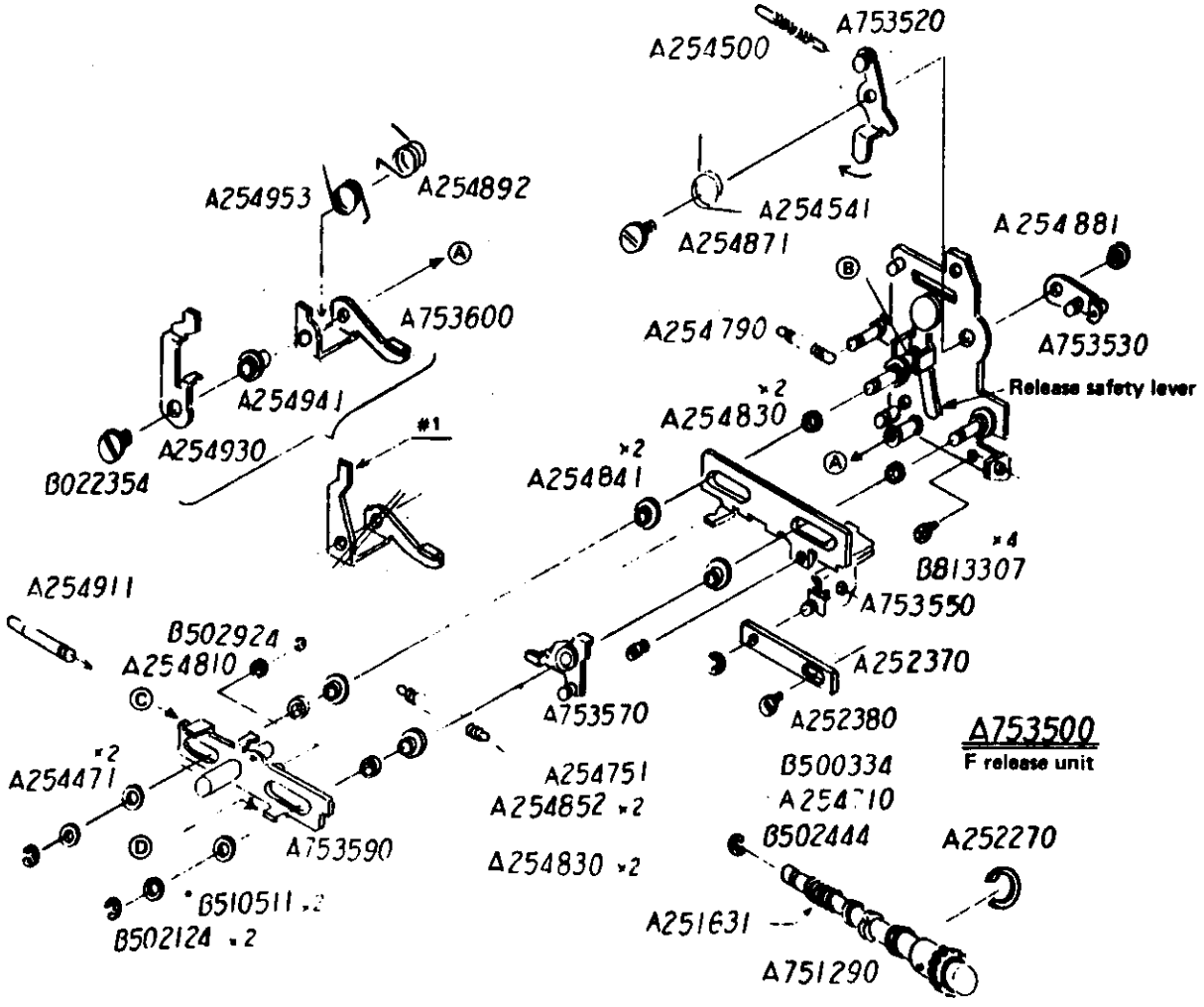
1) The setting screw (A255401) should be fixed securely with Loc-Tite.
2) Exchange the multi-operating lever spring (A256922) when it is unhooked, if its hooking section is deformed.



9. Exchange of the Film Release Unit

F. release unit with an old type winding safety lever (#1) attached should be exchanged completely for a new type one, in order to prevent deformation of the wind stopper pawl (A261391).

1) First, detach the winding base plate assembly, then detach the shutter button stopper ring (A252270, B502444) of the shutter release button set (A751290) and the snap ring (B500334) of the shutter release link (A252370), loosen four B813307 screws and, finally, detach the F. release unit (A753500).
2) Keep the following points in mind when attaching the winding base plate assembly, after attachment of the replacement F. release unit.
3) The upper release safety lever (A255350, see page 7) must fit into (B).
4) The multi-operating lever (A753240, see page 7) must engage (C).
5) The winding stopper lever (A753520, see page 4) must engage (D).
6) The holding claw (A753570) engages the F. release roller (A254810) while the shutter release button is being depressed and prevents the return of the upper F. release plate (A753590) so that there is time for the F. release action to take place. If the holding claw does not engage the F. release roller, then bend the upper F. release lever (A753520) in the arrow-indicated direction.



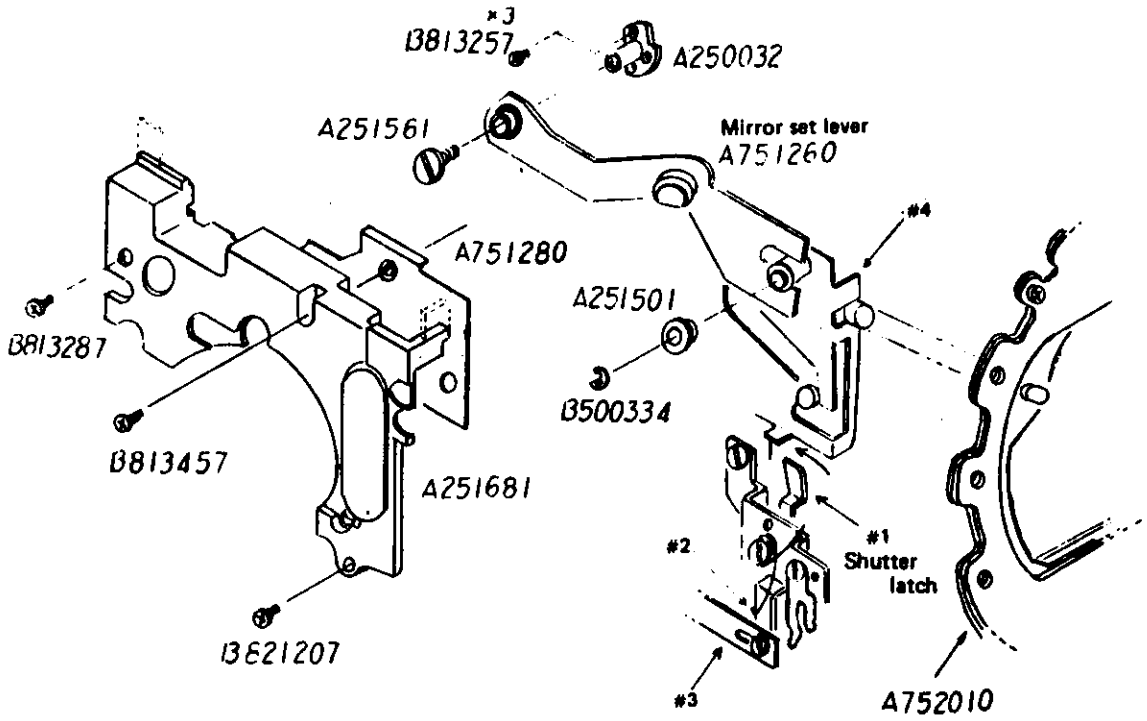
10. Mirror is not Charged: Bent Mirror Set Lever and/or Faulty Action of the Shutter Latch

Reflex mirror swings back up immediately upon completing the film winding crank action.

1) Check action of the shutter latch (#1).
2) Next, loosen screws B813287, B813457 and B821207 and then detach the light baffle cover (A251681). (The old type light baffle cover also has a protrusion, as indicated by the broken-line part, and, therefore, it will be necessary to loosen the top frame (A755200), also, in this case. Refer to page 19.)
3) Detach the set lever screw (A251561, which has a left hand thread) and take off the snap ring (B500334) and operating plate set roller (A251501). Finally, exchange the mirror set lever (A751260).
4) When exchanging the set lever shaft (A250032) use a part matching the height of the set lever.

CAUTION:

A bent set lever is caused by mistakes made during the insertion of the lens. If the film winding crank action is heavy, when assembling the set lever, therefore, do not force the action. (Refer to page 15" Lens Cannot be Detached".)



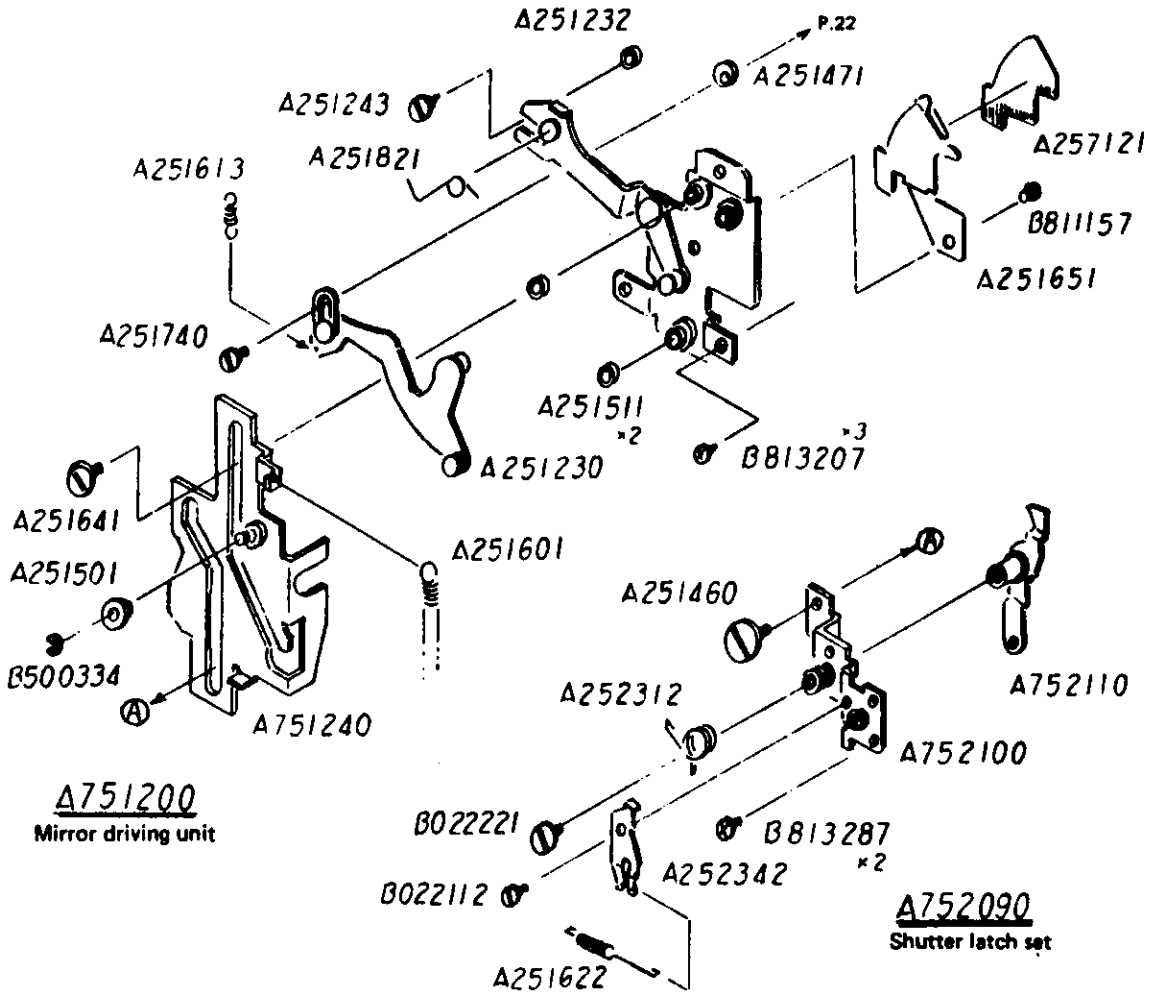
11. Shutter Blades do not Open (I)

The shutter blades close down completely when the shutter release button is depressed, while, at the same time, the reflex mirror swings up. Then, the light-tight plate (A751100) also swings up, followed by the shutter blades reopening and, after the required amount of time, closing completely once more. Should the shutter blades not reopen after the light-tight plate swings up, resulting in an unexposed frame, it should be repaired in the following manner.

1) Exchange the right operating-ring spring (A251601) since it has been strengthened by increasing its wire diameter to 0.26 mm.
2) Exchange the shutter operating ring unit (A752010) (see page 11).

12. Adjustment of the Mirror Arm Adjusting Cam (A251471)

When making the repair noted in "11. Shutter Blades do not Open (I)", position the M. (mirror) arm adjusting cam so that the M. operating plate (#1) moves up and down smoothly.
At the same time, the M. arm adjusting cam should not come in contact with the M. driving lever (#2) when the mirror swings up.



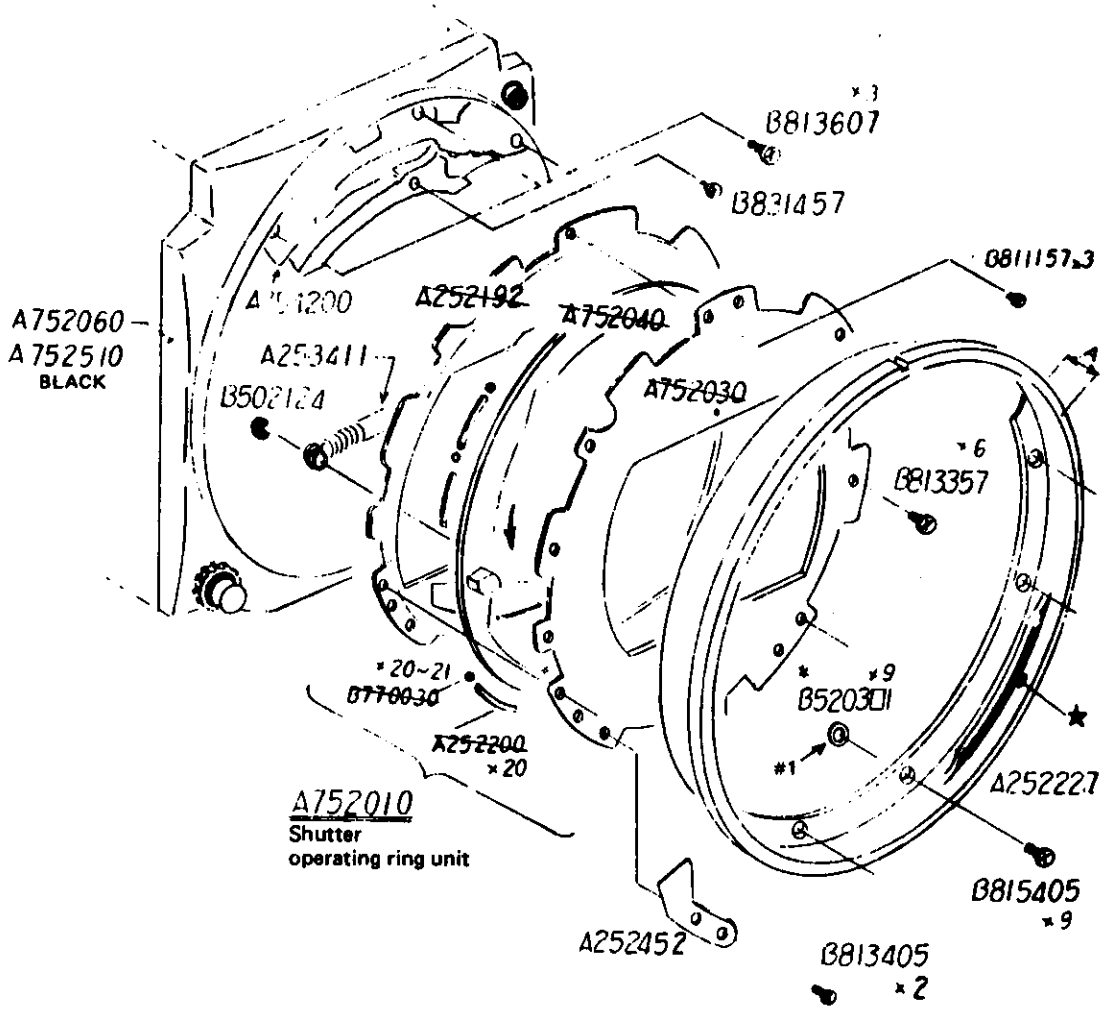
13. Shutter Blades do not Open (II): Rotation of the Shutter Operating Ring Unit is Heavy

With lens detached, check rotation of the S. (shutter) operating ring unit (A752010) in the arrow-indicated direction while maintaining pressure on the shutter release button. If the rotation is not smooth but feels tight or seems to be catching, it should be repaired in the following manner:—

1) Loosen nine B815405 screws and detach the lens mount (A252227). Since the focus adjustment washers (#1) differ in thickness, they must be properly identified so that they can be returned to their original positions when reassembling.
2) Loosen two B813405 screws, three B813607 screws, one B831457 screw and six B813357 screws.
3) Detach the left side cover (see page 12), unhook the operating-ring spring (A253411) and exchange the S. operating ring unit. Use a spring with 55 turns.

Adjust distance from standard attachment plane (surface) to the star-indicated (*) position on the lens mount to 79 mm ±0.03. (Use tooling jigs CT-301, 302 and 303.)

Use care when making the exchange, as there are two types of lens mounts with thickness of 9.8 mm and 9.85 mm at point "A".



14. Detachment of the Left Side Cover Add Shutter Speed Dial Stopper

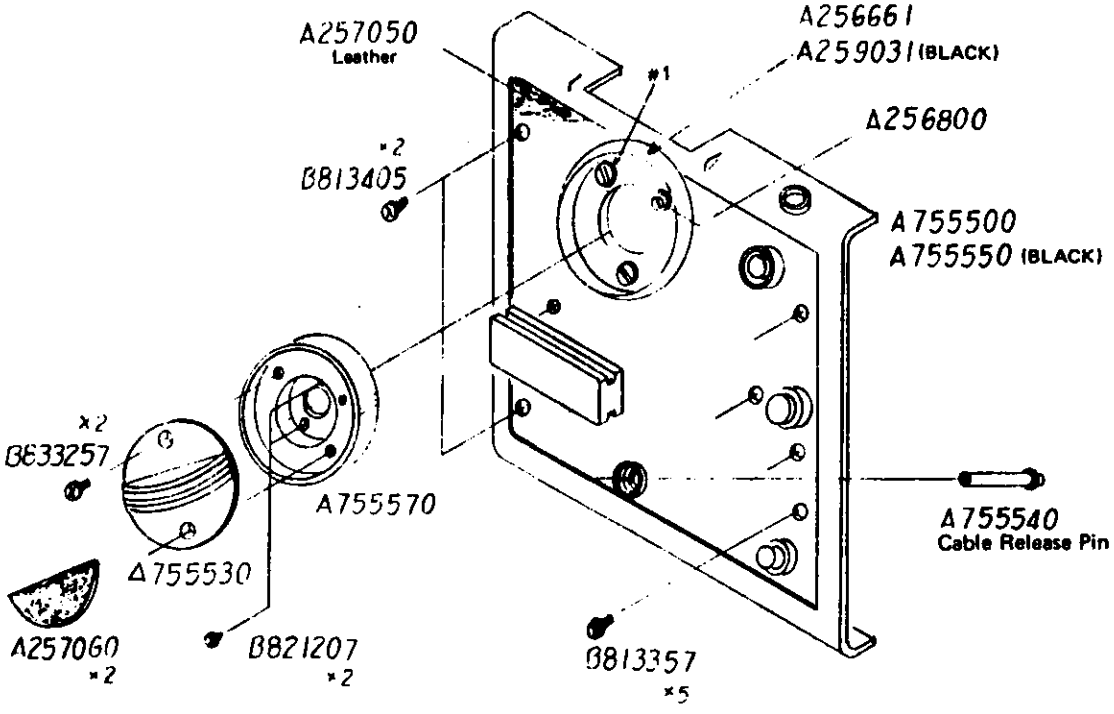
1) Strip the shutter dial cap leatherette (A257060) and loosen two B833257 screws. Then, detach the shutter dial cap (A755530) and loosen two more screws (B821207). Finally, detach the shutter dial knob (A755570).
2) Strip off enough of the left cover leatherette (A257050) to expose the screws, loosen two B813405 screws and five B813357 screws and, then, detach the left side cover.
3) Place the cable release pin (A755540) aside for safekeeping since it will become loose when the left side cover is detached.

Add shutter dial stopper

1) Change one of the setscrews (#1) of the shutter dial cover (A256661) to the shutter dial stopper (A256800) and change the shutter dial knob to part A755570 (which has a stopper pin riveted to it).

Pointers on Assembling

1) Do not forget the cable release pin.
2) The circuit is grounded (earthed) at two points at the front and, therefore, the left side cover must be fixed with two chromium-plated screws (B813405).
3) As with the right side cover, the left side cover should also not protrude beyond the standard attachment plane (surface).
4) Do not cause short-circuits by pinching the wires



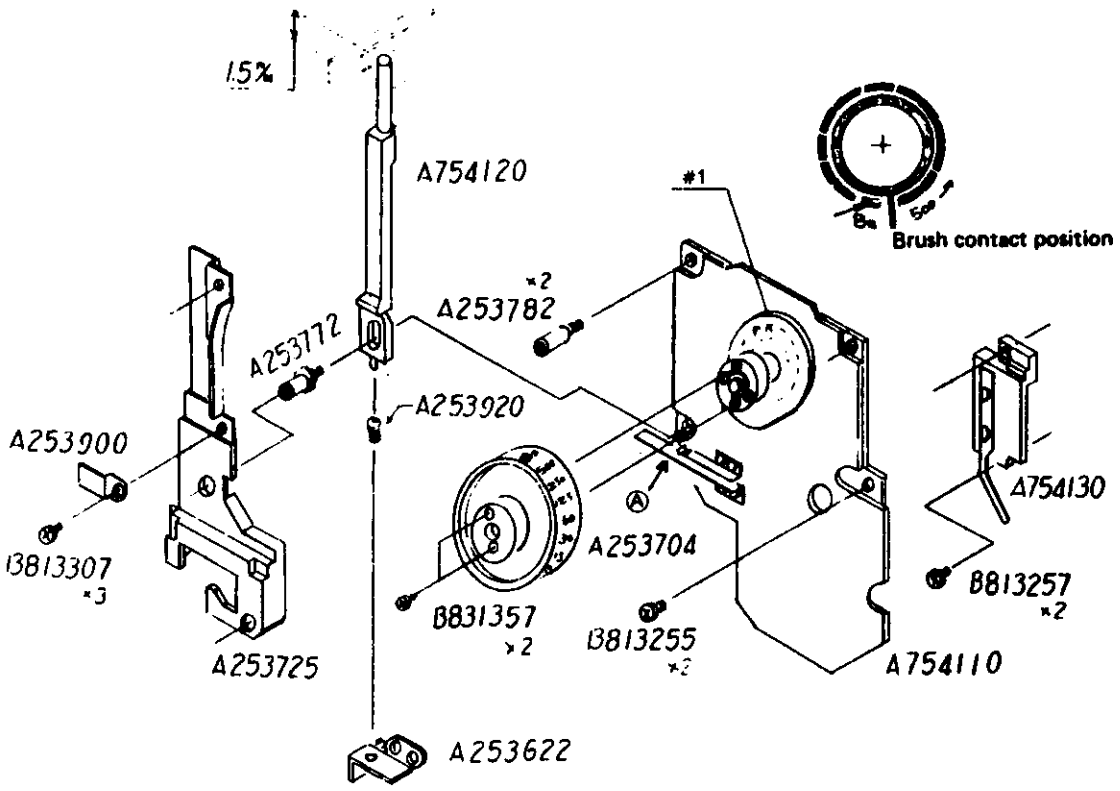
15. Shutter Speed Becomes 1/500 Second

The switch of the shutter circuit (A754100) is ON because the AE changeover rod (A754120) is pressed up by the strength of the AE changeover rod spring (A253920). However, when the AE Finder is attached, the AE changeover rod is pressed down and the switch is turned OFF, with the shutter circuit then becoming inoperational.

1) Is the AE changeover rod protruding 1.5 mm above the top frame?
   If not, rehook the spring (A253920) to adjust.
2) Is it possible that the switch of the shutter circuit is OFF?
   Confirm ON/OFF operations of the switch by pushing the tip of the AE changeover rod. If OFF, bend the contact plate (A) to make the necessary adjustment.
3) Check for defect in the wiring circuit. See page 26.

16. Relation of the Shutter Speed Dial and Shutter Speed Setting

1) Rotate the shutter dial click plate #1 and coincide its brush contact to the 8 second position (see drawing of pattern). Then, attach the shutter speed dial (A253704) with its 8 second setting at the top position.



17. Detachment of the Lens

Detachment of the lens differs with the cameras or, in other words, there are two systems, or 17-1 and 17-2 illustrated below. The two systems are easily differentiated by whether the lens release button has a leatherette covering or not.

17-1 Lens release button has leatherette covering.

Turn the film winding crank fully and charge the shutter. Rotate the lens release button locking ring (A254010) and depress the lens release button (A252293) while keeping the ring rotated. Finally, rotate the lens and detach.

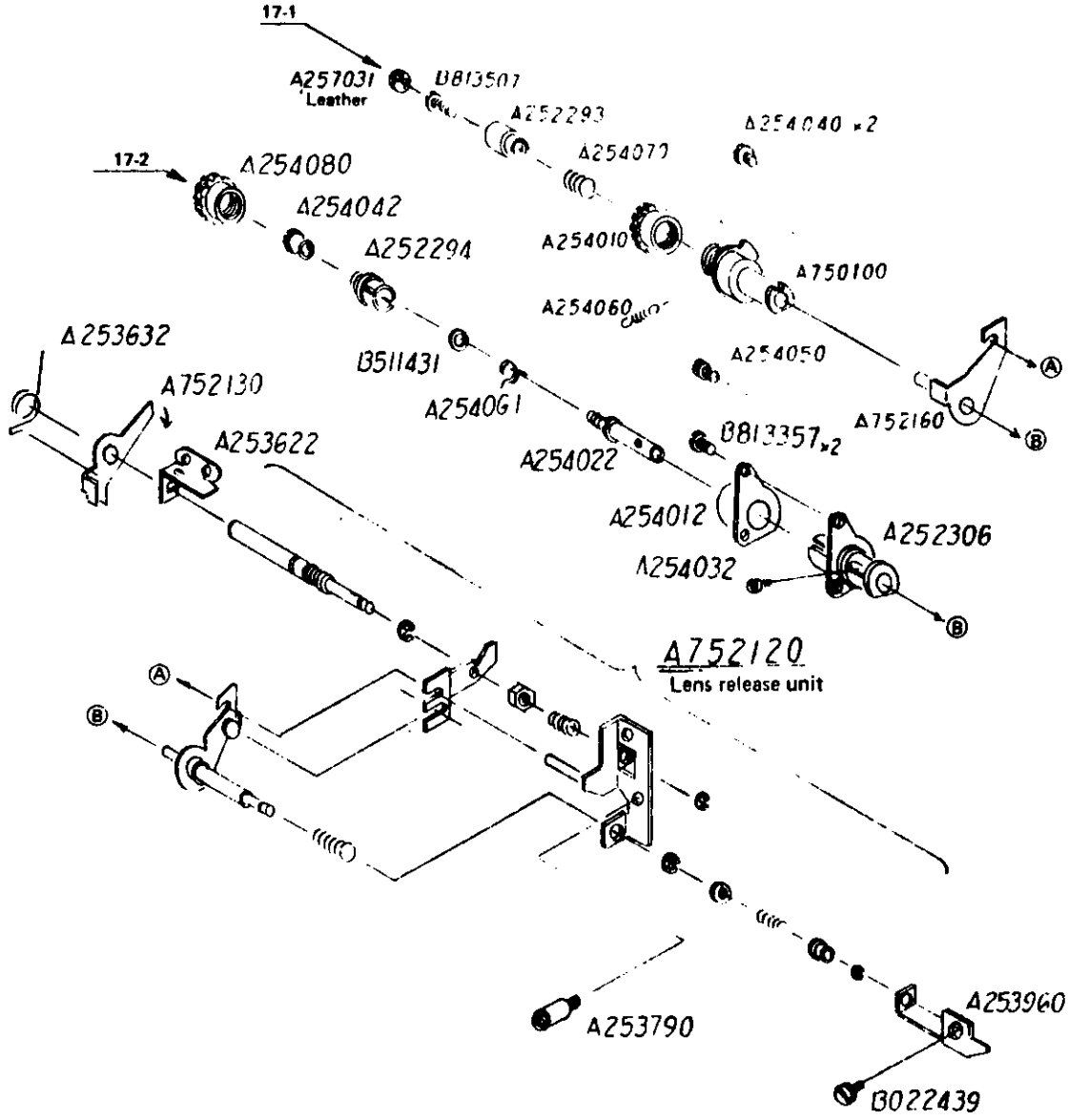
17-2 Lens release button is not covered.

Turn the film winding crank fully and charge the shutter. Rotate and depress the lens release button (A254080). Detach the lens.

CAUTION:

To repair defects in the 17-1 system, change completely to the new 17-2 system.

When the film winding and shutter charging operation is completed, the lens safety lock (A752130) is pushed by the S. operating ring unit (A752010), with the result that its hook section is then slipped off the lens button latch (#1), thus making it possible to depress the lens release button. When it is not possible to complete the film winding and shutter charging operation in the normal manner, push the lens safety lock with your finger which will make it possible to detach the lens.

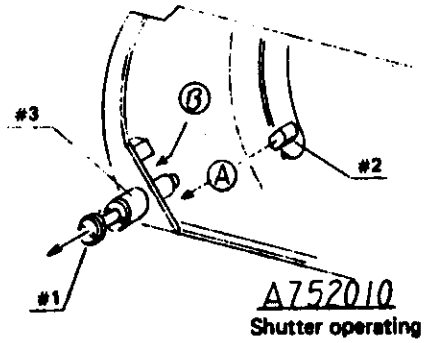


18. Lens cannot be Detached

When it is not possible to depress the lens release button, the trouble is due to deformation of the mirror set lever originating from rotation of the film winding crank when the #2 pin is not in the (B) section in the normal manner. The #2 pin will be located in (A) section, at such times.

In order to remove the lens, in this case detach the focusing screen and undertake the following operations from the top of the body.

1) Pull the setscrew (#1) in the arrow-indicated direction. Confirm that the #2 pin returns due to spring tension and enters (B) section.
2) Rotate the film winding crank fully, until it stops.
3) Then, remove the lens according to either 17-1 or 17-2, as explained on the previous page.
4) If the lens cannot be removed in the above case, use a screwdriver and push #3, while repeating the operations noted above.
5) If the mirror set lever is bent because of the above trouble, repair as explained on page 9. Or, if movement of the #1 pin is not proper, when checked, exchange the S. operating ring unit (A752010), as explained on page 11.



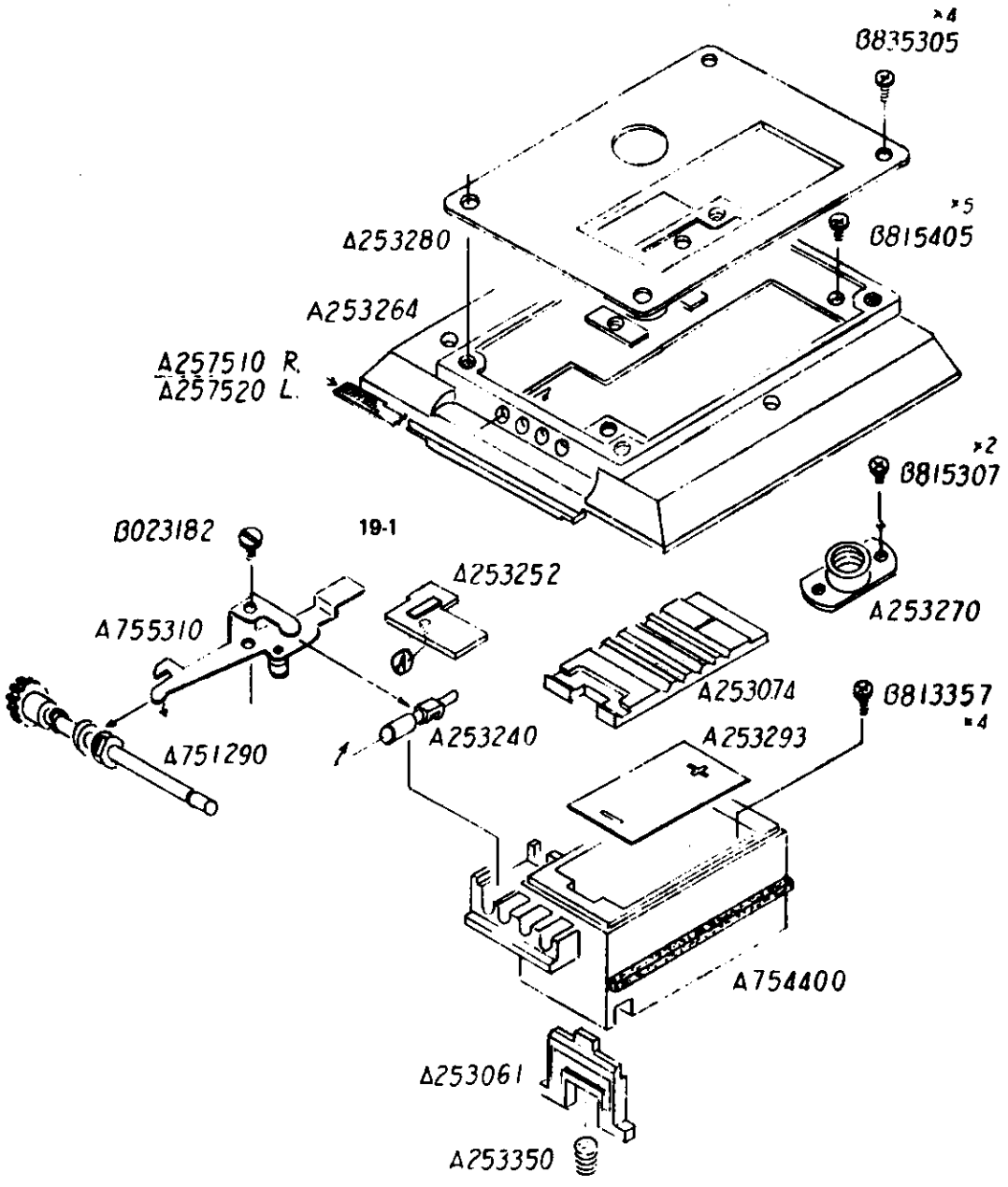
Shutter operating unit

19. Shutter Release Button does not Return

1) The speed-grip shutter release rod (A253240) is jammed in the hole on the bottom cover (A253264).
2) The release lever (A755310) is on top of the release rod (A751290) and disengaged.
3) The lower F. (film) release plate (A753550) is on top of the release safety lever (see page 8) and, therefore, disengaged.

Repair

1) Exchange the MD (motor drive) connector cover (A253252) for a new part in which a protrusion has been added at the section indicated as (A) in the drawing. When making the exchange, however, attach liners with bonding agent, eliminate looseness in the speed-grip shutter release rod and, at the same time, align the rod properly to the hole on the bottom cover.
2) Bend the tip of the release lever downwards so that it does not become detached from the grooved section in the release rod.
3) Turn the tip of the release safety lever (see page 8) upwards.



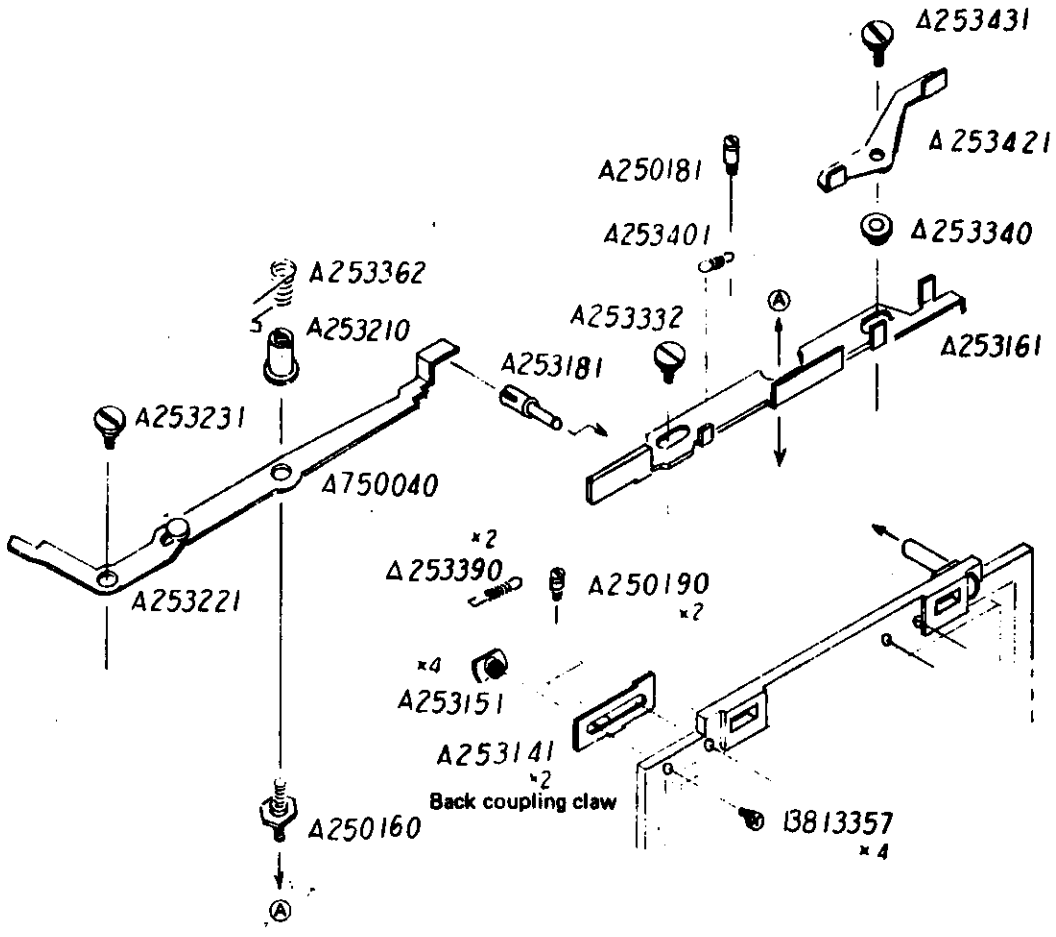
20. Film Back cannot be Connected: Back Coupling Claw is Bent

Back coupling claw (A253141) does not slide laterally and, therefore, becomes bent when pressed by the back coupling link on the film back side.

1) Exchange the back coupling claw the coupling claw guide (A253151). Apply Loc-Tite to the B813357 screw and fix securely.

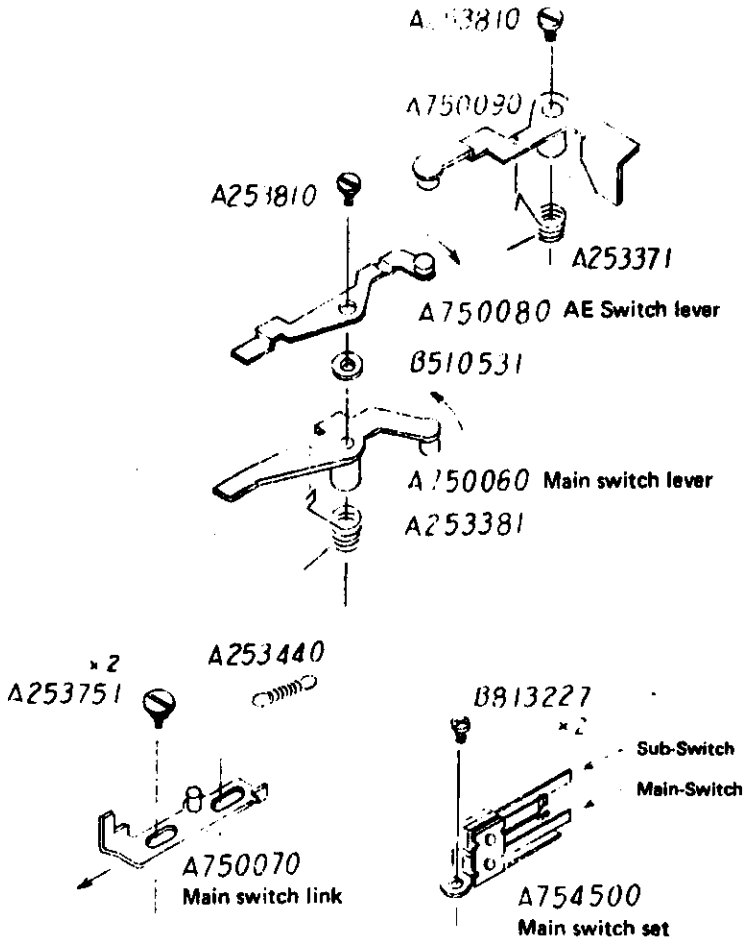
CAUTION:

When the dark slide is inserted fully into the film back, the dark slide connecting pin (A253181) is pressed by the dark slide, which results in the dark slide safety latch (A253221) pushing the lower F. release plate (A753550) and preventing depression of the shutter release button.



21. Action of the Main Switch Set

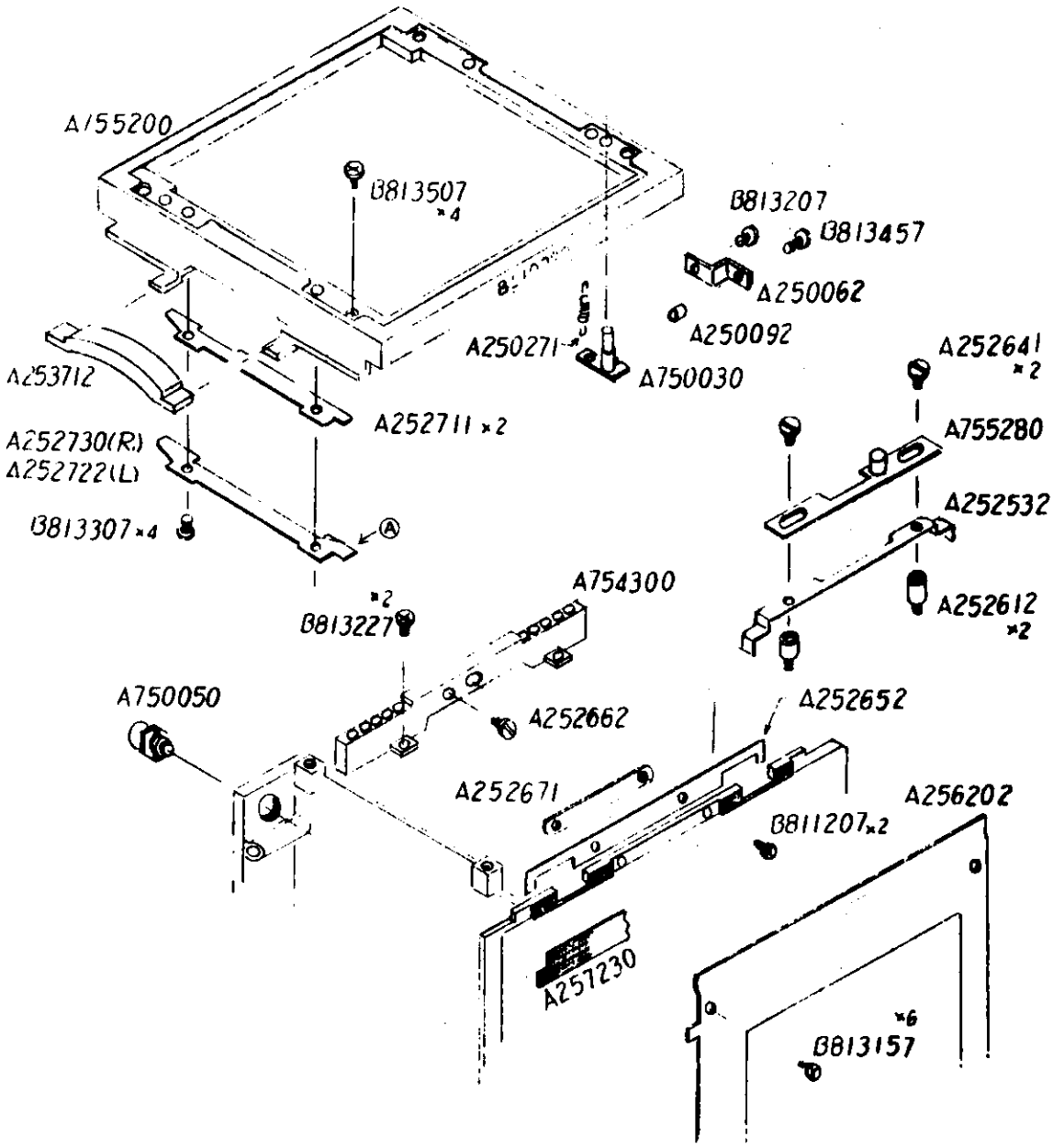
1) When the film winding and shutter charging operation is completed, the main switch link (A750070) is pushed in the arrow-indicated direction while the main switch lever (A750060) is also moved in its arrow-indicated direction, by the action of the S. operating ring (A752010), as noted on page 11. This results in the main switch becoming ON (the sub-switch remains OFF).
2) When the shutter release button is depressed, the AE switch lever (A750080) is pushed in the arrow-indicated direction, through the medium of the release lever (A755310), as noted on page 16, which results in the sub-switch becoming ON. At the same time, the main switch lever is returned to its original position, with the result that the main switch becomes OFF.
3) Locate the main switch set (A754500) or bend the contact plates so that the above-mentioned actions are completed in about one-half of the stroke between the time of depressing the shutter release button and the start of the reflex mirror action. (Testing tool A754500-PT)



22. Waist-Level Finder cannot be Attached: Mount Springs are Bent

1) The finder cannot be attached because the finder mount spring (A252722) is deformed at point A.
Loosen the left and right side covers, detach the top frame (A755200) and exchange the finder mount springs.

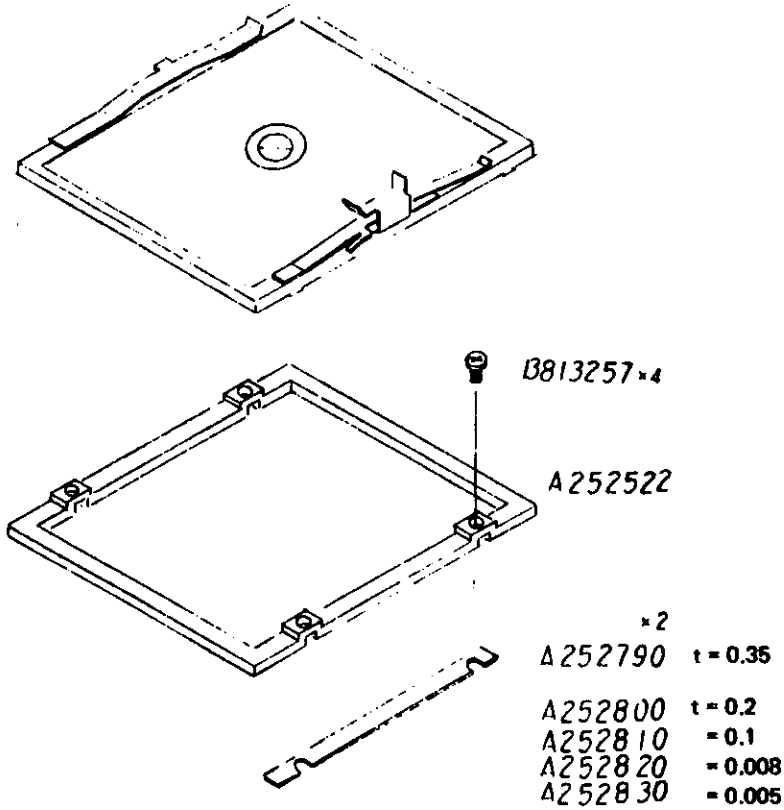
CAUTION:
The part of the top frame with numbers engraved on it should not protrude above the standard attachment plane (surface).
Align the finder lock pin (A750030), AE changeover rod (A754120) and hole.



23. Adjusting the Focus of the Focusing Screen

1) Coincide the reflex mirror to the 45° position (see page 23).
2) Adjust the height of the frame gate by increasing or decreasing the adjusting liners inserted below the frame
3) Loosen four screws and adjust the height of the frame gate (A252522) by increasing or decreasing the number of adjusting liners inserted under the frame gate.

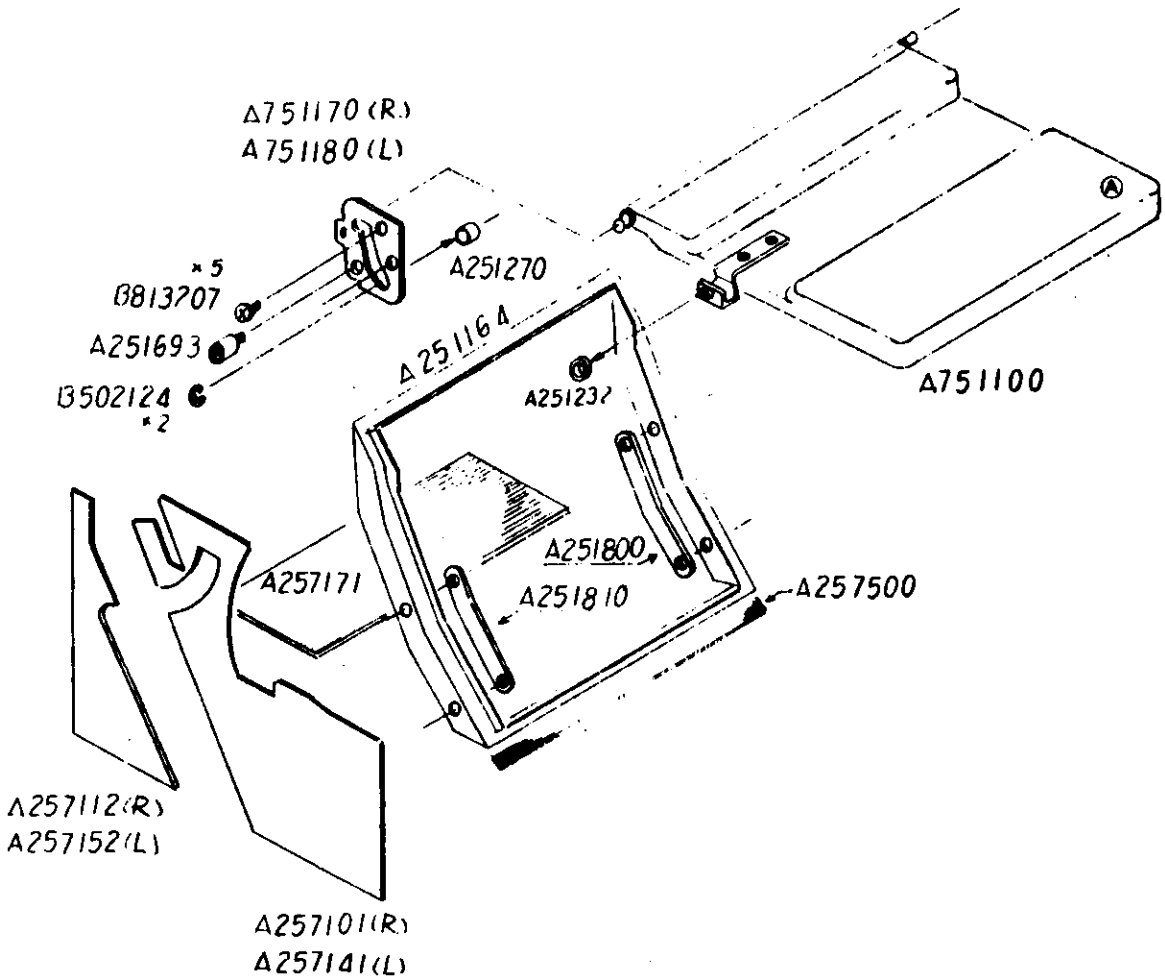
CAUTION:
The 45° position of the reflex mirror and the adjusting liners inserted under the frame gate have already been precisely adjusted in the factory and, therefore, should not require adjustments. Confirm that they are really out of alignment before making the above adjustments.



24. Reflex Mirror Light-Tight Plate

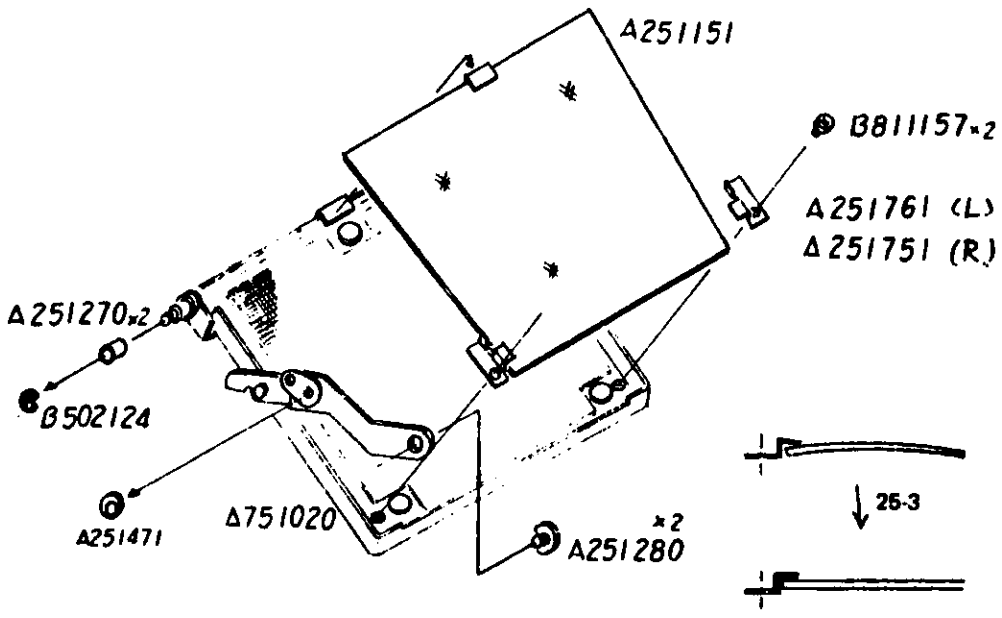
Light to the film plane is shut out by the rear light-tight frame (A251164) and the light-tight plate (A751100).

1) If the leading end of section (A) on the light-tight plate is not contacting the mirror frame, when the light-tight plate is in the up position, then exchange the spring (A251821, see page 10).



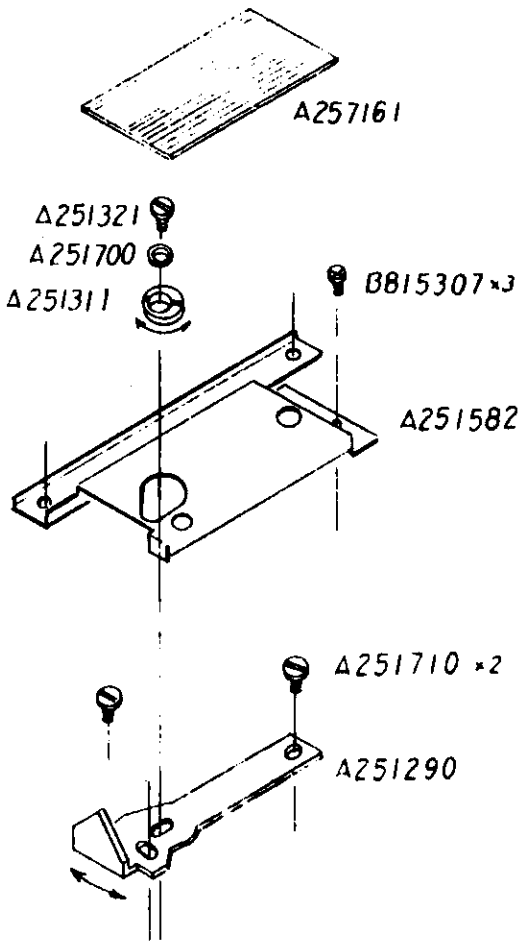
25. Exchange of the Reflex Mirror

1) Loosen two B811157 screws of the mirror holders (A251751 and A251761) and detach the mirror. (Support the mirror frame by its rear surface in order to prevent warping.)
2) Place the mirror holders against the side surfaces of the mirror and tighten the screws so that lateral looseness or movement in the mirror is completely eliminated. When tightening the screws, however, support the mirror frame (A751020) by its rear surface, with your free hand, in order to prevent warping.
3) The bent sections of the mirror holders may also be adjusted, i.e., bent more or bent less, as illustrated, to prevent warping of the mirror. (Since there will be differences in the focus and the sharpness of the finder image, depending on how much the screw is tightened or loosened, both these points should be confirmed before making it final.)



26. Adjustment of the Mirror Frame to 45°

1) The stopping location of the mirror frame can be changed variably, by rotating the mirror adjusting collar (A251311) which will have the effect of moving the mirror stopper (A251290).
   The mirror stopper screws (A251710 x 2) should be tightened when the mirror is properly located at the 45° position. (Do not loosen the mirror adjusting axle A251321.)
2) Since the camera is already precisely adjusted, the screws should not be tightened or loosened without good reasons.

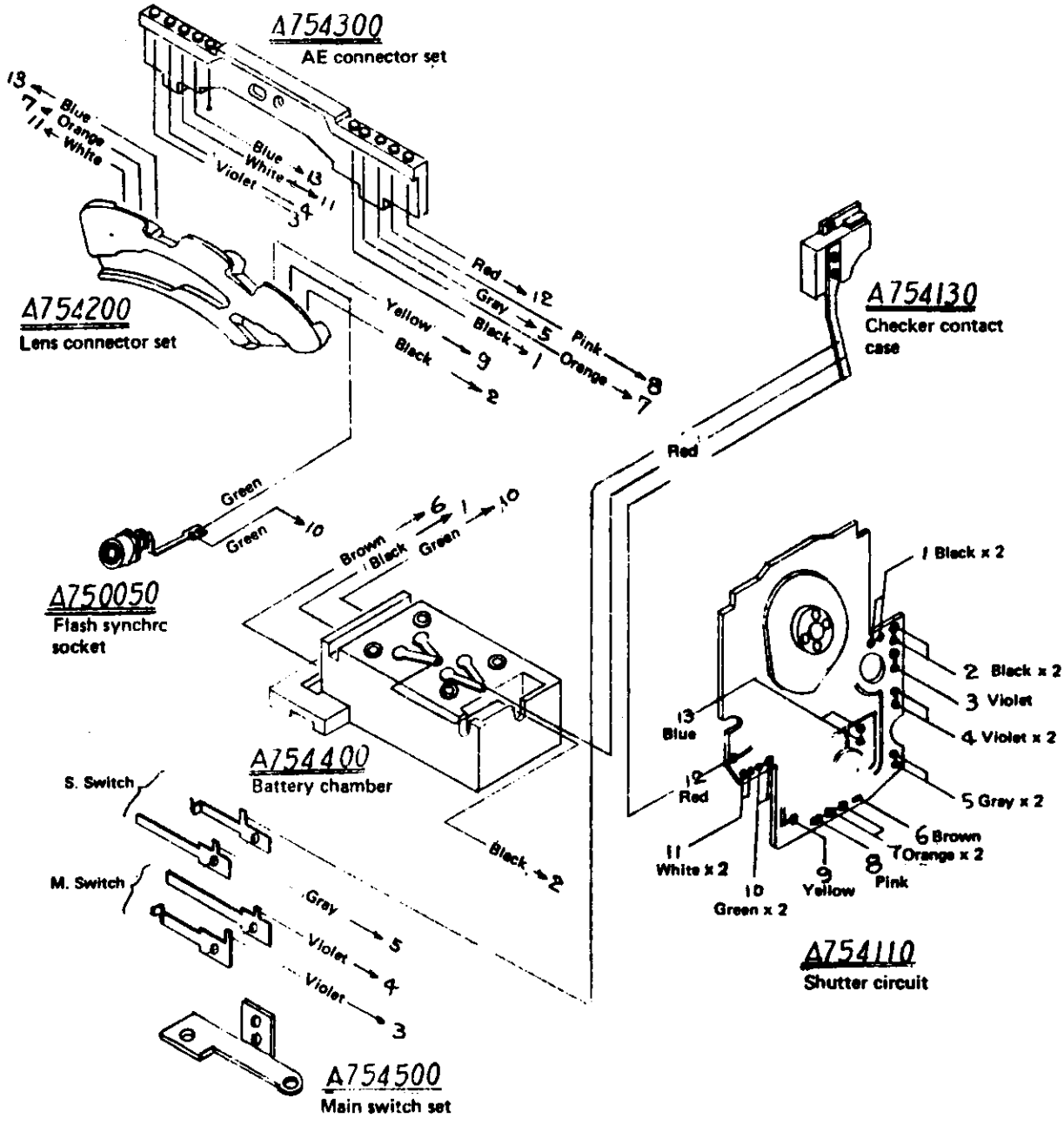


27. Wiring Diagram (I)

When three red-colored lead wires are connected to the checker contact case (A754130), the numbered wires should be connected to same numbers in the shutter circuit.

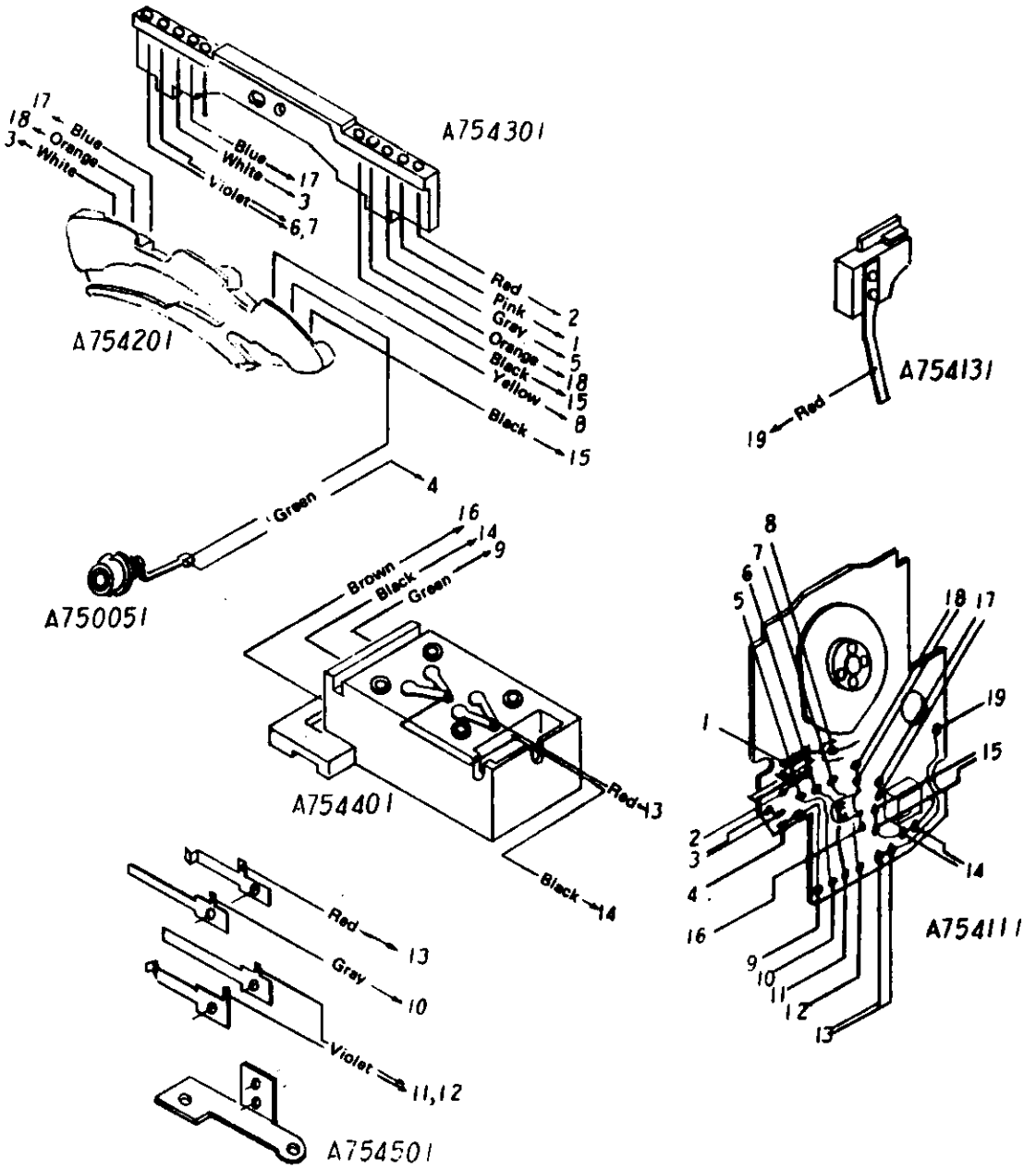
Red	Power system
Green	Flash synchro system
Black	Grounding of body
Blue	Grounding of circuit
Yellow	Integrating system
Brown	Motor drive power system
Gray	AE finder
White	Aperture ring resistances
Orange	Magnet (Mg) output
Violet	Memory circuit
Pink	AE finder power system

} When the AE Finder is attached.



28. Wiring Diagram (II)

When one red-colored lead wire is connected to the checker contact case (A754131), the numbered wires should be connected to same numbers in the shutter circuit (A754111).

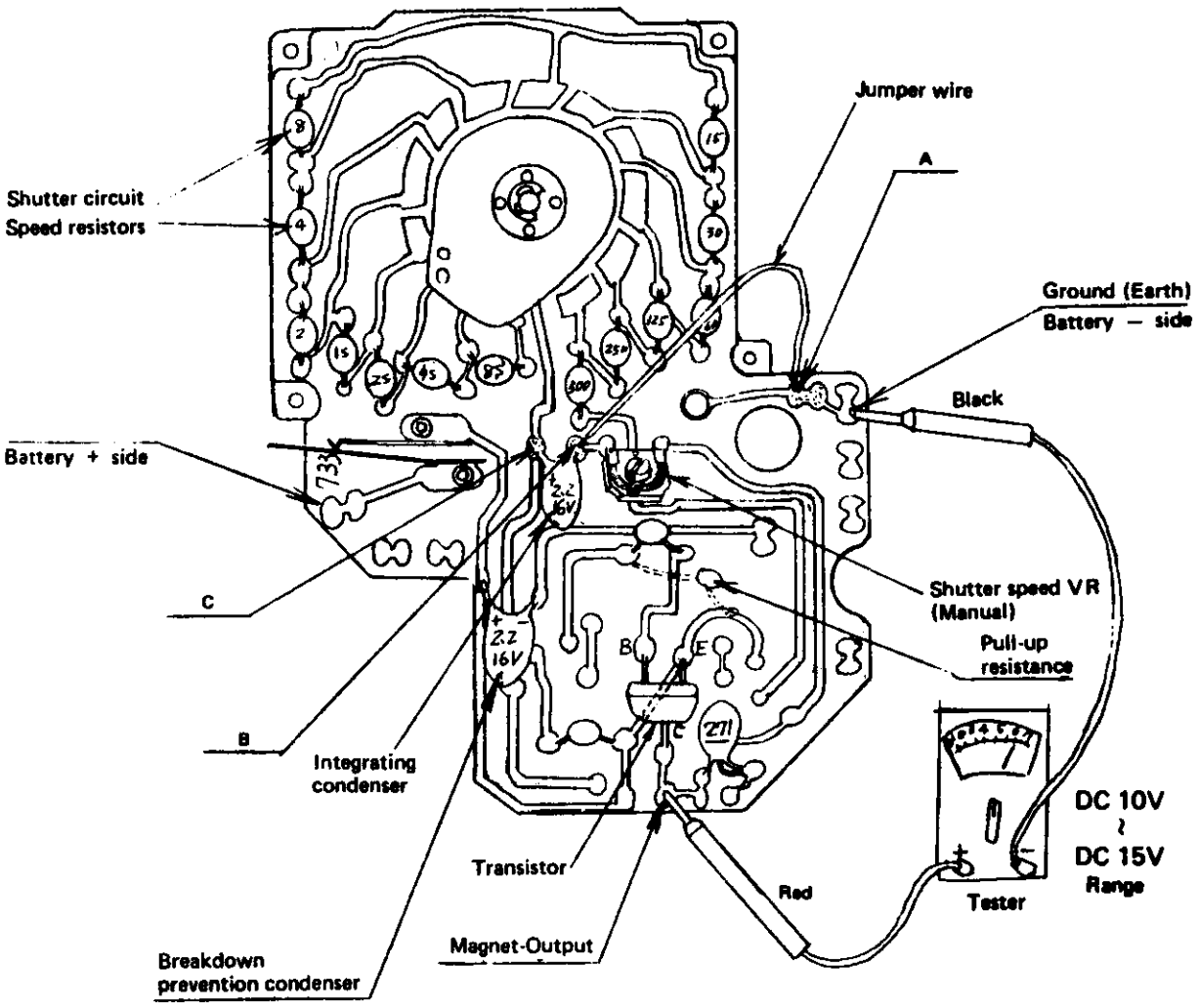


ETR Electronic Control Circuit Repair Manual

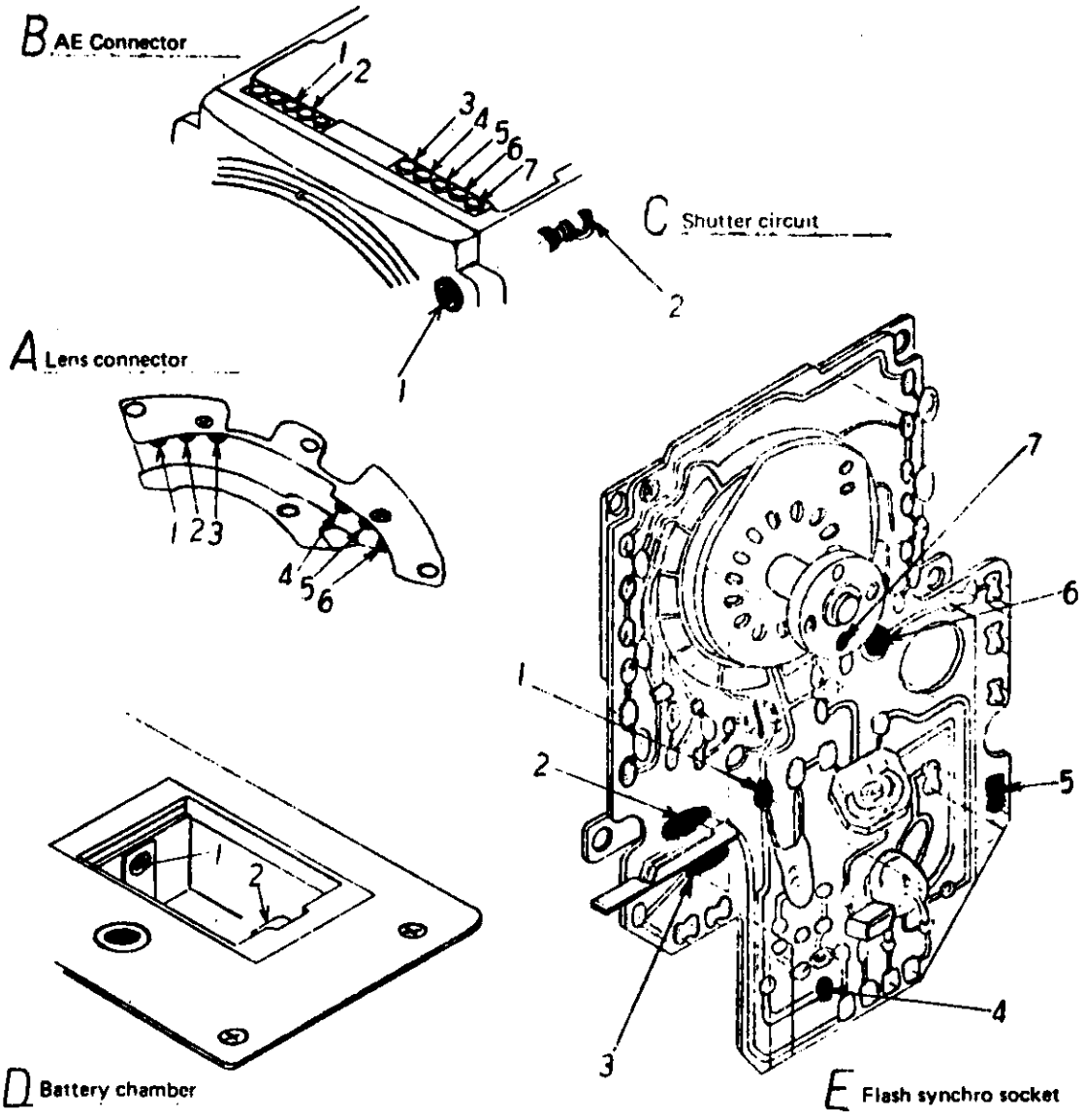
1. When the electronic control circuit is defective, it is possible to consider the following troubles:—
   a) Shutter stays open,
   b) Shutter operates at 1/500 sec. at all shutter speed setting and
   c) Shutter stays open or operates at 1/500 sec. on some of the shutter speed settings only.
2. If the shutter speed settings are not accurate, they can be adjusted with the "shutter speed VR (variable resistor)" in the illustration but a "shutter speed tester" will be required for this purpose.
   Approximate adjustments are, however, possible in the slow shutter speed settings of 1S, 2S and 4S, without such equipment.
3. First, use a tester and check whether the electronic control circuit is working normally or not. If the tester indicates normal operation, there is no reason for exchanging the electronic circuit 733.
4. The actual checking procedure of the electronic control circuit, in the above case, is as follows:—
   1) Take off the left side cover and remove the lens from the lens mount.
   2) Connect point A with point B, with a jumper wire, as shown in Fig. 1.
   3) Insert the battery into the battery chamber without mistaking the polarity.
   4) Set the range of the tester for DC 10V to DC 15V. (Voltage used is 0 to 6V.)
   5) Place the red lead on the Mg (magnet output) terminal and the black lead on the ground (earth) terminal, as shown in Fig. 1.
   6) Without making any change in the above conditions for 5), use a pincer and short-circuit point C and point B.
   7) Without making any change in the above conditions for 5, now remove the pincer away from the points.
5. The reading on the tester for 6), in the checking procedures above, should be within the range 5V to 6.3V. When the pincer is taken away in 7), in the above procedures, check whether the reading on the tester becomes 0 after an elapse of time equal to that of the shutter speed setting set to the shutter speed dial. Or, in other words, the actual shutter speed will coreespond to the time it takes for the tester reading to change from 6V to 0, when the C-B short-circuit in 6) is terminated in 7).
   It can be seen, from the foregoing, that this test is possible only when slow shutter speeds from 1S to 4S are set to the shutter speed dial.
6. If the time-elapse can be confirmed in 5 above, then the 733 electronic circuit can be considered as operating normally.
7. In Fig. 1, the top group of resistors from 8S to 500 are the fixed resistors which determine the shutter speed setting. Thus, for example, if the resistor 30, in this group, is detached from the circuit board due to defective soldering, etc. the shutter speeds 1/500 sec. to 1/60 sec. will operate normally but the shutter will stay open at the other settings from 1/30 sec. to 8S. In other words, the shutter speeds on the slow side of the resistor detached from the circuit board will all stay open. Thus, for example, should the resistor 500 be in the OPEN condition, the shutter will stay open on all shutter speed settings.
8. If the 733 electronic circuit is operating normally, it is also possible to consider troubles due to mistaken wire connections, short-circuiting between wires and breakages in the wire and these troubles should be checked according to the following "Attached Sheet" which is also the general procedures followed on the Zenza Bronica assembly line. A to D
9. If the tester reading for 5 shows an incorrect shutter speed setting and the checking procedures in 4, 5, 6 and 7 indicate that the circuit board is defective, exchange the circuit board.
   If the circuit is then found to be operating normally (with the new circuit board), then check the wiring circuit as noted in 8.
10. The wiring diagram shown in Fig. 1 may or may not have the "breakdown prevention condenser" or the "pull-up resistor", which are additional parts which have been added for preventing the following specific troubles.
    a) Breakdown prevention condenser:
       The shutter remains open at all shutter speeds or at the slow 1S to 8S speeds when the shutter is released with the electronic flash unit connected to the camera but returns to normal operation upon detaching the electronic flash unit.
       * The breakdown prevention condenser is not supplied for repair purposes but the circuit board can be exchanged completely. Defects run about one per thousand.
    b) Pull-up resistance 8.2 kilo ohms:
       Voltage is about 6.3V when the battery is still new. The shutter remains open while the battery voltage is high but returns to normal operations when the voltage falls to 5V.
       * The pull-up resistor is also not supplied for repair purposes but the circuit board can be exchanged completely. Defects run about one per 150.

CAUTION:
If the shutter remains open even when the electronic flash unit is disconnected and/or when the battery voltage falls to 5V, the origin of the defect cannot be considered as being the same as for the above two defects. Therefore, the circuit should be checked as per 4 to 8 for other reasons.

11. When checking the wiring circuit according to page 28, the reading should be less than 0.1 ohm. However, this cannot be measured and, therefore, simply check for continuity or whether the scale reading is almost 0 or not.



Electronic Control Circuit Fig. 1



Checking Continuity and Insulation in the Wiring.

Step 1 – Use a digital multi-tester that can measure up to 0.1 ohm.
Step 2 – Test in the following sequence.

Sequence	Test Point (1)	Test Point (2)	Checking Points
1	A-1	B-1	Continuity less than 1 ohm.
2	A-2	B-4	– ditto –
3	A-3	B-2	– ditto –
4	A-4	E-4	– ditto –
5	A-5	C-2	– ditto –
6	A-6	B-3	– ditto –
7	A-6	C-1	Must be insulated
8	A-6	E-6	Continuity less than 1 ohm
9	B-5	E-5	– ditto –
10	B-6	E-3	– ditto –
11	B-7	E-2	– ditto –
12	D-1	D-2	Must be insulated
13	D-1	E-2, E-3	Continuity less than 1 ohm.
14	D-2	E-6	– ditto –

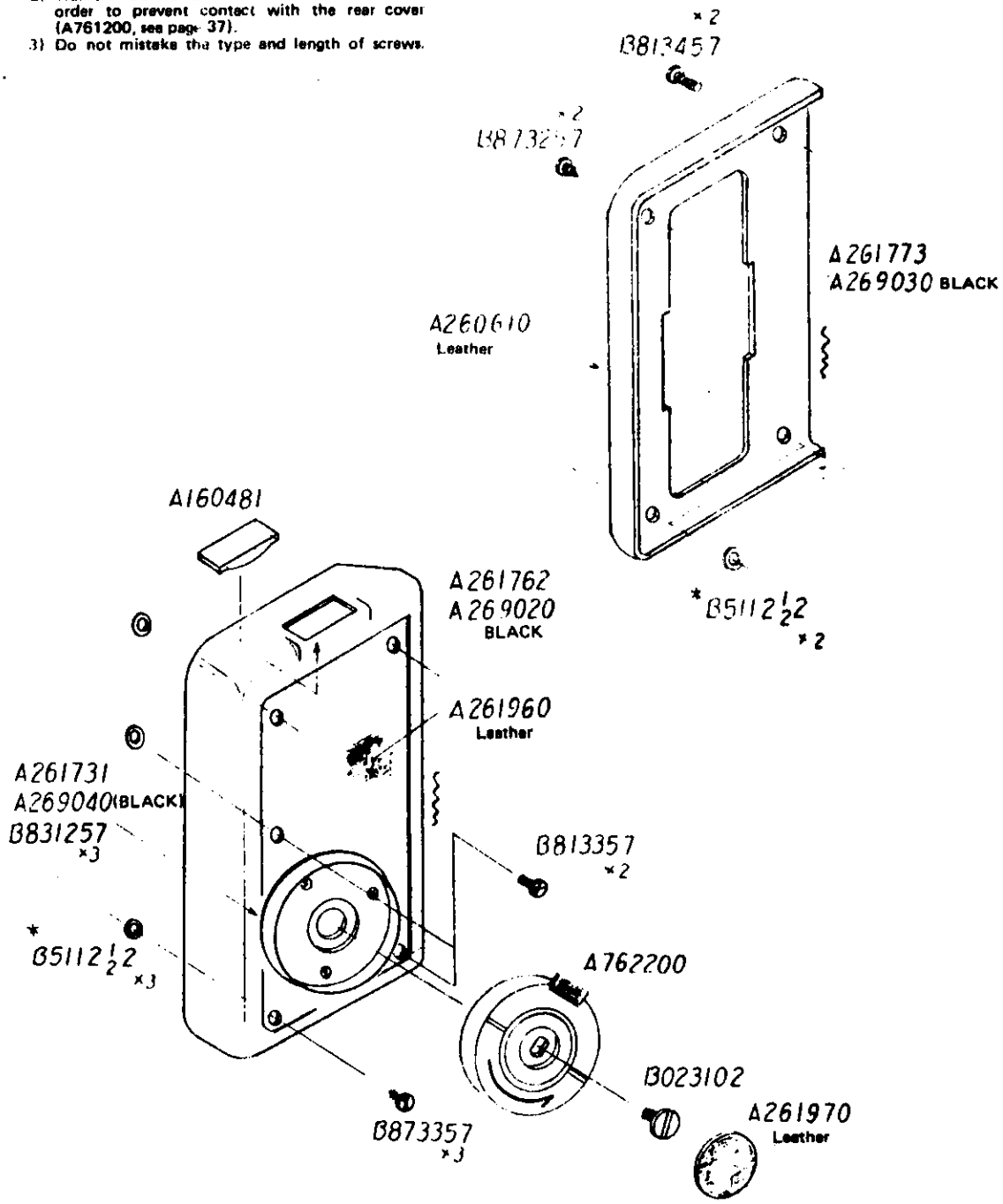
Continuity in all instances is less than 1 ohm. If more than 1 ohm, check very carefully for poor soldering connection or for a break in the wire.

1. Detachment of the Left and Right Magazine Side Covers

1) Strip off the film winder leatherette (A261970), loosen the right hand screw (B023102) and detach the manual film winder (A762200).
2) Strip off the right cover leatherette (A261960) sufficiently to expose the screws, then loosen two B813357 screws and three B873357 screws and, finally, detach the M. (magazine) right side cover. The M left side cover (A261773) should also be detached in similar manner.

Pointers on Attachment

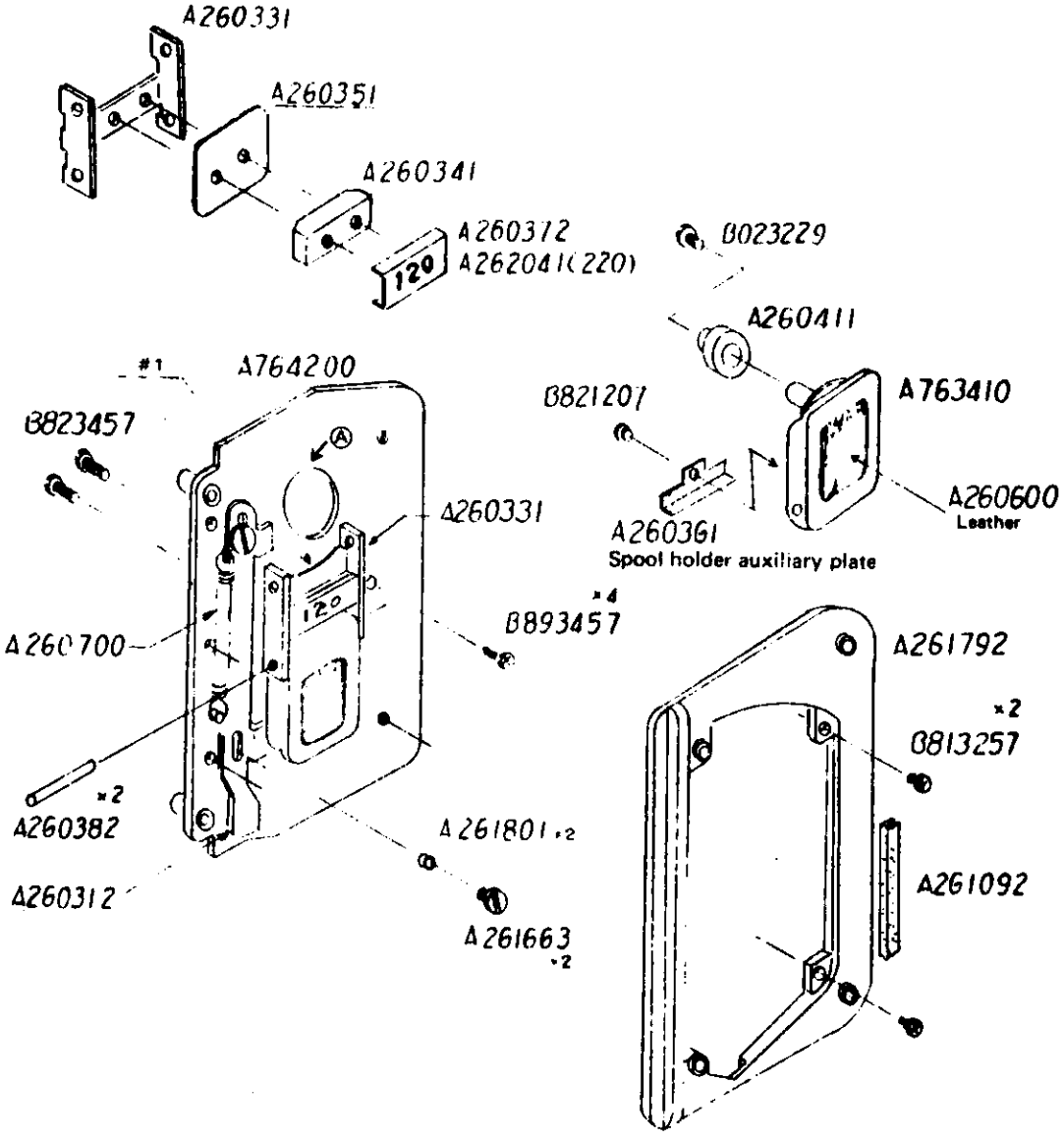
1) In order that the section indicated by the wavy line ~~~~~ does not protrude, locate the left and right M. side covers while attached to the film gate (see page 36).
2) Washers B511202 may have to inserted in order to prevent contact with the rear cover (A761200, see page 37).
3) Do not misteke the type and length of screws.



2. Spool Holder does not Close: Spool Holder Auxiliary Plate is Detached

Exchange the M. left side plate set (A764200).

1) Detach the M. left side cover.
2) Loosen two 8813257 screws and detach the left light-tight plate (A261792).
3) Loosen four 8893457 screws and take out the M. left side plate set.
   In the new M. left side plate set, the spool holder spring (A260351) is already riveted to the M. left side plate (#1) and, therefore, does not require bonding of the spool holder auxiliary plate (A260361) to the spool holder (A763410).
   Loosen two 8823457 screws and locate the spool holder base (A260331) so that the spool holder does not hit (A) section on the M. left side plate during its opening/closing actions.
4) Change and attach the film plate indicator plate (A260372) to match the film insert.



3. Counter Dial does not Advance

Exchange in the following manner, when the pin (#1) of the counter roller shaft A (A764410) is broken.

1) Confirm broken pin by detaching the M, right side cover (see page 29).
2) Loosen the four B062066 setscrews of the frame counter roller A (A764400).
3) Loosen four B893457 screws and detach the right light-tight cover (A763830).
4) Take out and exchange the counter roller shaft A.

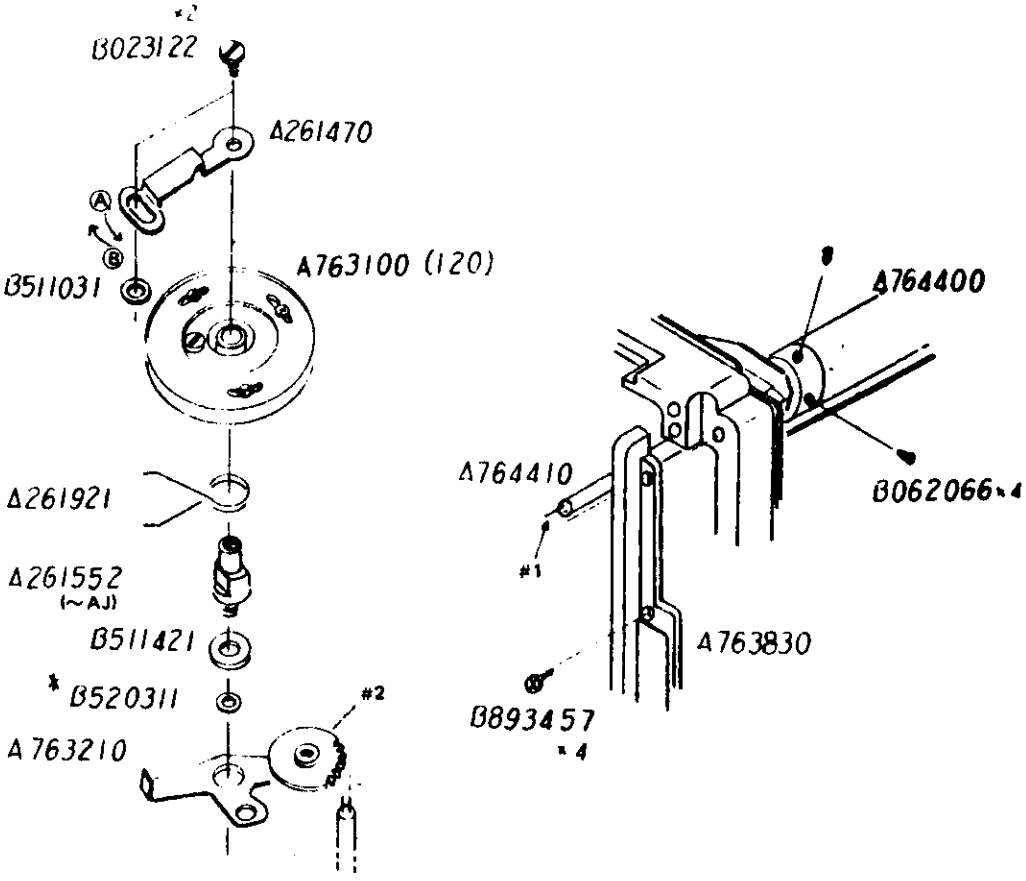
Pointers on Assembling the Counter Roller Shaft A

1) Tighten four B062066 setscrews at the height required for properly engaging the pin (#1) and gear (#2) of the counter lever (A763210).

4. Adjusting Film Start

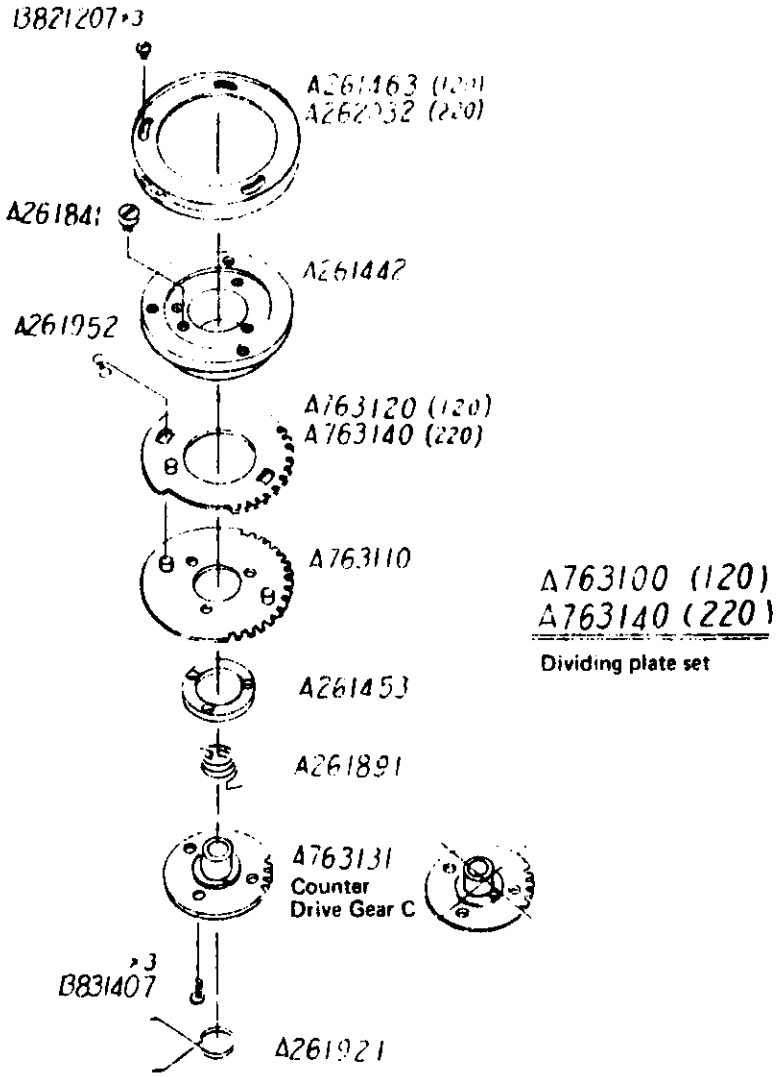
Distance from start-mark to the first frame:–
120 roll film 205 to 235 mm
220 roll film 215 to 255 mm

Adjusting the location of the counter dial stopper (A261470)
Movement in A direction – Delays appearance of the first frame.
Movement in B direction – Speeds up appearance of the first frame.



5. Counter Dial does not Return

1) If the counter dial returns when the M. (magazine) right side cover (see page 29) is detached, then attach washers (B511212/ B511222) with bonding agent, as explained in "1. Detachment of the Left and Right M. Side Covers" on page 31.
2) Check rotation of the gears on the counter lever (A763210) and, if not smooth, exchange. (See page 33.)
3) Check whether there is dirt or other foreign particles caught in the gear teeth and, if so, clean.
4) Reverse the counter dial (A261463) slightly with a pincer, from its stopping position. If the counter dial spring (A261801) should move, with the operation, the counter lever spring (A261921) is in contact with the counter dial and, therefore, the dividing plate set (A763100) should be exchanged. Exchange the dividing plate set for one in which the hooking point of the counter drive gear C (A763131) is a groove instead of the previous hole. When making the exchange, adjust the position of the wind stopper pawl (A261391), as explained on page 35.



6. Winding Action does not Stop

The film back signals the body when to stop the winding action by protruding the F. (film) release pin (A260990) 4 to 4.3 mm above the standard attachment plane (surface) (height of the F. release cylinder A is 4 mm). Therefore, detach the film back from the body and check height of the F. release pin.

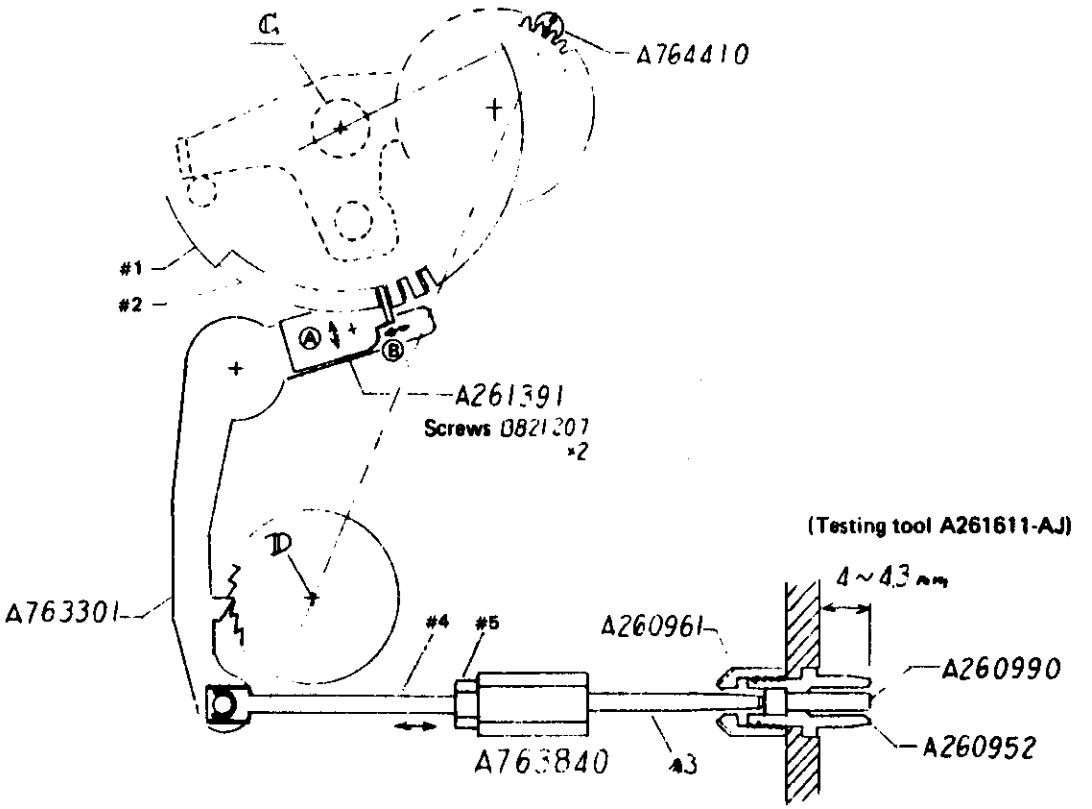
If not 4 mm, detach the M right side cover and repair in the following manner:–

1) If the dividing plate (#1), dividing auxiliary plate (#2) and wind stopper pawl (A261391) are deformed, exchange the dividing plate set (A763100) and wind stopper pawl.
2) If the F. release shaft B (#3) is caught on the F. release cylinder B (A260961), then round the tip of the F. release shaft B, or if the hole is too tight, then slim the shaft down.
3) If the F. release shaft (A763840) is too short, loosen the F. release shaft nut (#4) and adjust the length of the F. release shaft A (#5) by screwing it out. Tighten the nut securely after making the adjustment.

7. Improper Frame Interval

The rotation of the counter roller shaft A (A764410) is in proportion to the advance of the film. Therefore, a line extended from the two pins on the counter roller shaft A must always be constant in its position between the dividing plate axle (C) and the wind-up gear D axle (D).

1) If the extended line from the two pins is not directed (not located) between points C and D, adjust by moving the wind stopper pawl in the arrow-indicated direction at (B).
2) If the extended line from the two pins is directed (located) between points C and D but its location or direction is not constant, then exchange the dividing plate set as the grooves #1 and #2 may be deformed.
3) If the wind stopper pawl is contacting the outer rim of #2, adjust the location of the wind stopper pawl in the arrow-indicated direction at (A) so that the F. (film) release pin protrudes 2 to 2.3 mm from the standard attachment plane (surface).
(do not change the length of the F. release shaft when undertaking this adjustment.)



8. Film is not Advanced: Spool Clutch Spring is Broken

The wind-up gear A (#1) rotates even when the spool metal (A261313) is prevented from rotating.

1) Open up the bottom of the spool holder on the left side of the film back and detach the upper spool shaft (A261320) by stopping rotation of the wind-up gear D and, at the same time, rotating the upper spool shaft to the right.
2) Then, rotate the spool clutch axle (A261293) to the right, too, and detach.
3) Wind the replacement spool clutch spring (A261882) around the spool clutch axle so that it does not overlap itself.
4) Assemble the spool clutch spring so that it is hooked on the grooves of the wind-stopper ratchet (A261302) and the spool metal and, then, tighten the upper spool shaft.

CAUTION:

Hold the wind-stopper ratchet from rotating and rotate the wind-up gear A (#1). The upper spool shaft should rotate but the spool metal should not, in this case. If the latter also rotates at the same time, the trouble may be due to:—

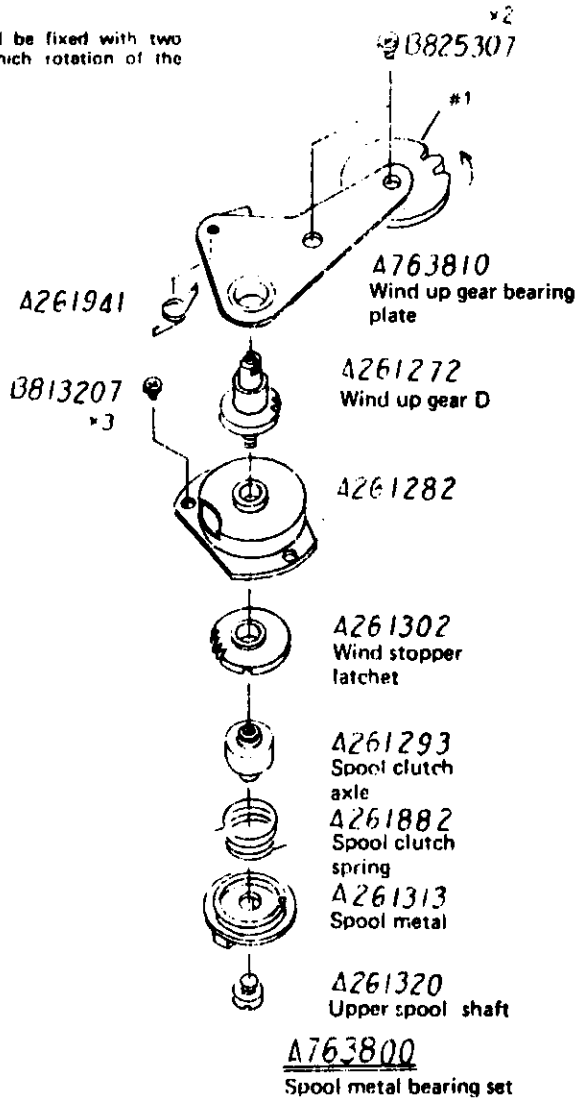
1) Deformed grooves of the dividing plate and dividing auxiliary plate.
2) Bent wind stopper pawl.
3) Broken pin of the counter roller shaft A, etc.

9. Unusual Noise with Winding Action: Grease has Dried Up in the Spool Clutch Axle

1) Noise caused by abrasion of the spool clutch axle and spool clutch spring is heard when the winding stopper lever engages.
   * Apply Liqui-Moly on the spool clutch axle and spool clutch spring.
   * Liqui-Moly is a molybdenum disulfide lubricant available from Lockrey Co., Ltd., U.S.A.

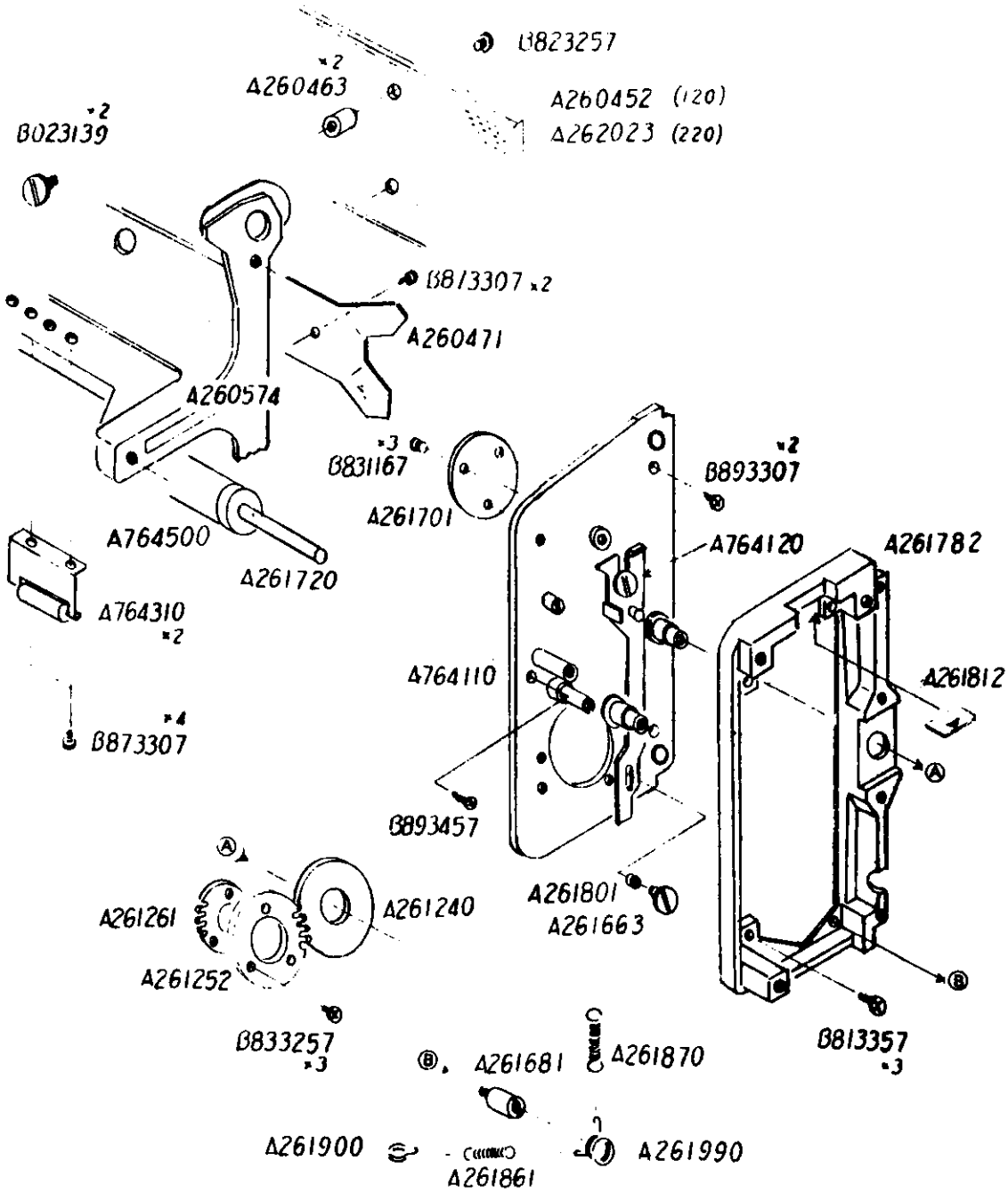
CAUTION:

The wind-up gear bearing plate should be fixed with two 8825307 screws at the position in which rotation of the wind-up gear train is smooth.

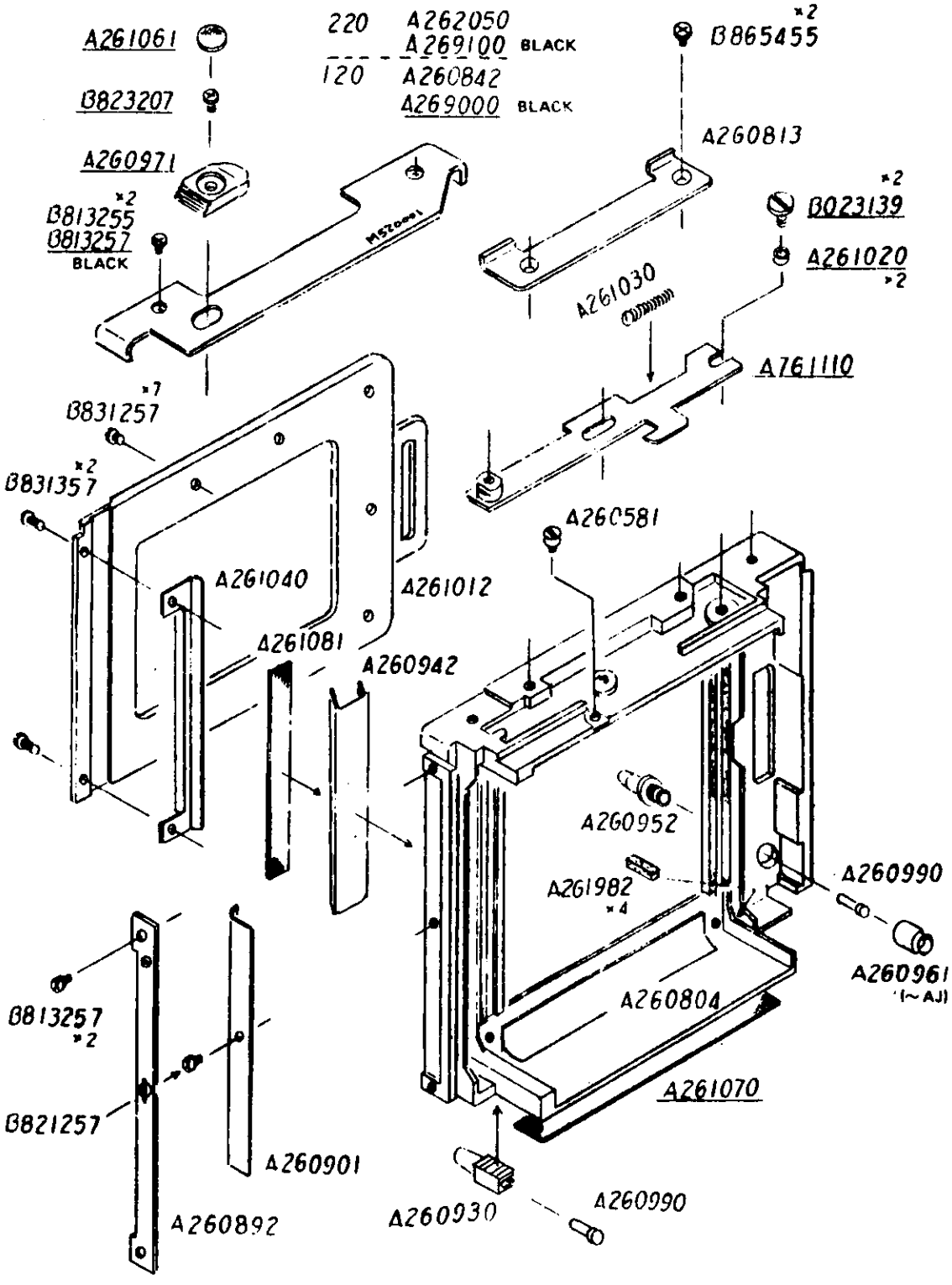


10. Others

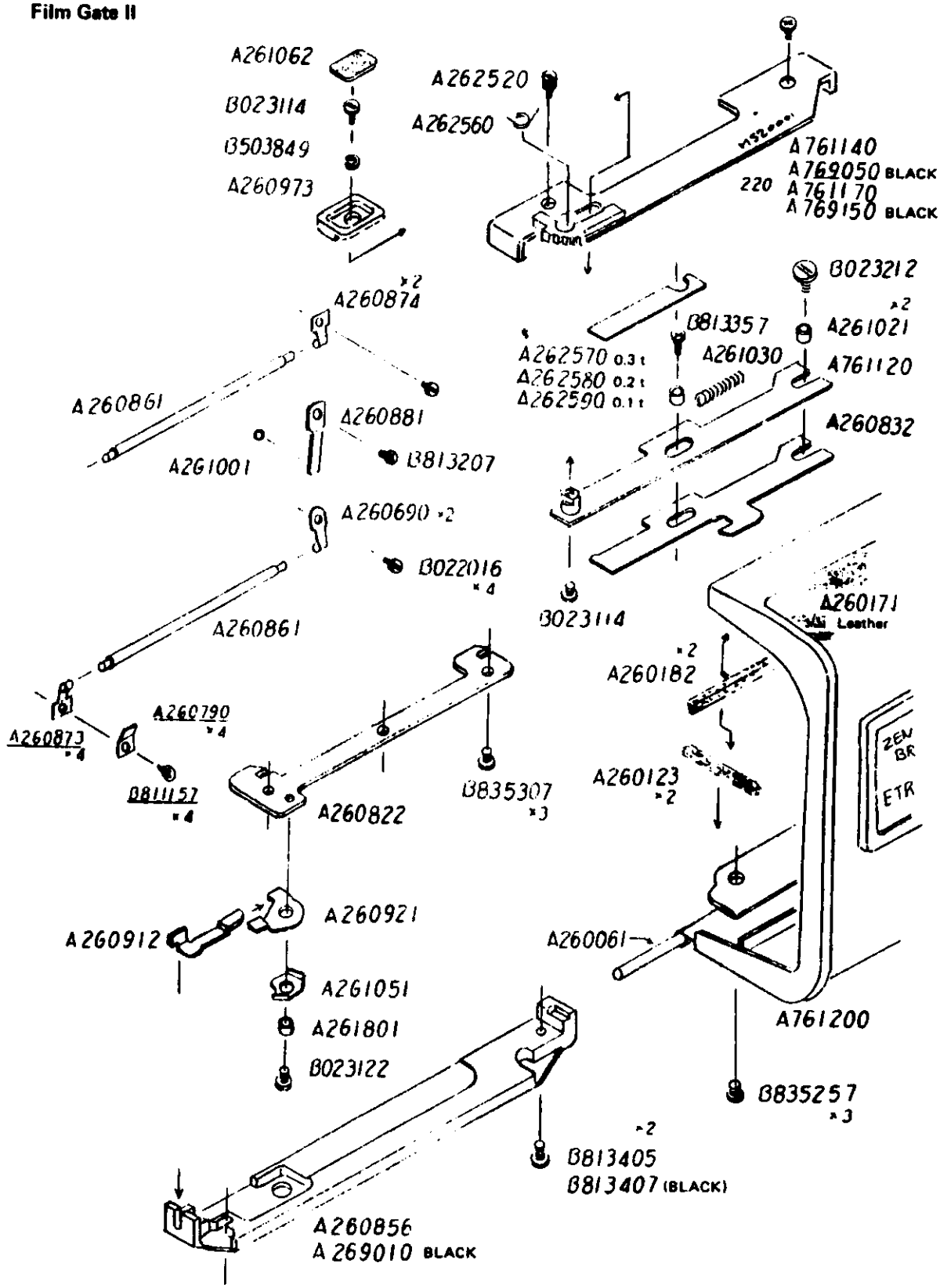
1) Exchange all plastic wind-up gear B's (A261252) for metallic parts.
2) Pressure plate (220) (A262023) is stepped on both sides.
3) The exchange of the pressure plate to which the pressure plate pin (A260463) is riveted also requires exchange of the pressure plate pin.
4) Assembly of the pressure plate with its top and bottom sides reversed will result in contact with the frame counter roller A and B (A764400 and A764500) and, therefore, it should be assembled properly.



Film Gate I


A261061
220 A262050
A269100 BLACK
120 A260842
A269000 BLACK
B865455 ×2
B823207
A260971
A260813
B813255 ×2
B813257 BLACK
B023139 ×2
A261020 ×2
A261030
A761110
B831257 ×7
B831357 ×2
A260581
A261040
A261012
A261081
A260942
A260952
A261982 ×4
A260990
A260961 (~AJ)
A260804
B813257 ×2
A261070
B821257
A260901
A260892
A260930
A260990

Film Gate II


A261062
B023114
B503849
A260973
A262520
A262560
A761140
A769050 BLACK
220 A761170
A769150 BLACK
Brown
B023212
×2
A260874 ×2
B813357
A261021
A262570 0.3t
A262580 0.2t
A262590 0.1t
A261030
A761120
A260832
A260861
A260881
A261001
B813207
A260690 ×2
B022016 ×4
B023114
A260171
Leather
A260861
×2
A260182
A260790 ×4
A260873 ×4
B811157 ×4
A260822
B835307 ×3
A260123 ×2
ZEN BR
ETR
A260921
A260912
A260061
A261051
A261801
B023122
A761200
B835257 ×3
×2
B813405
B813407 (BLACK)
A260856
A269010 BLACK

11. Film Gate Set

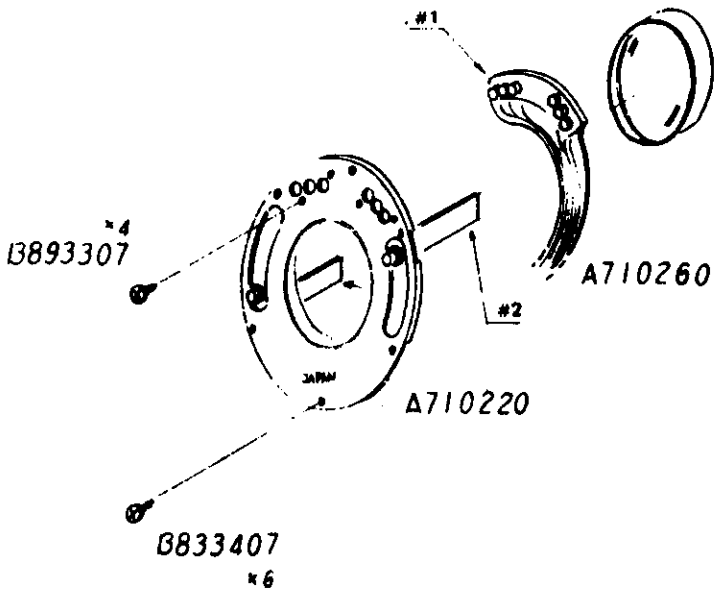
1) Exchanging the rear cover (A761200) for one that will double-lock (has a safety lock) means that the rear cover on page 38 will be changed to that on page 39.
2) When attaching the top cover (A761140) and bottom plate (A260856), attach so that they do not protrude beyond the standard attachment plane (surface) (the *-marked surface of A260804).
3) The top cover numbers should be unified at M52 ---, for 120 roll film, and M53 ----, for 220 roll film.
4) The bottom plate should be located so that F. release pin (A260990) moves lightly when it is attached.
5) The gate roller plates (A260874 x 2 and A260890 x 2) should be fixed in locations which will permit the two gate rollers (A260861) to rotate smoothly and thus prevent scratches to the film.

The 75 mm F2.8 Zenzenon-E Lens is representative of the five lenses (40 mm, 50 mm, 75 mm, 150 mm and 250 mm) presently available for the Zenza Bronica ETR single lens reflex camera. The other lenses can be repaired in practically the same manner.
Troubles occuring in the lens may actually be due to reasons on the camera body side and, therefore, it is important that the proper repairs be made in such instances. A simple method of checking the actual origin is to attach the saim lens to another camera body and/or attach another lens to the original camera body and see whether the defects still occur.

(1) Shutter Blades do not Open (when the Shutter Release Button is Depressed)

Check rotation of the setting ring unit (A710220). After setting the unit, press the locking lever (A210213) on the side of the bayonet mount and then return the setting ring unit. If it feels tight or seems to catch, then it should be exchanged.
Repair in the following manner:—

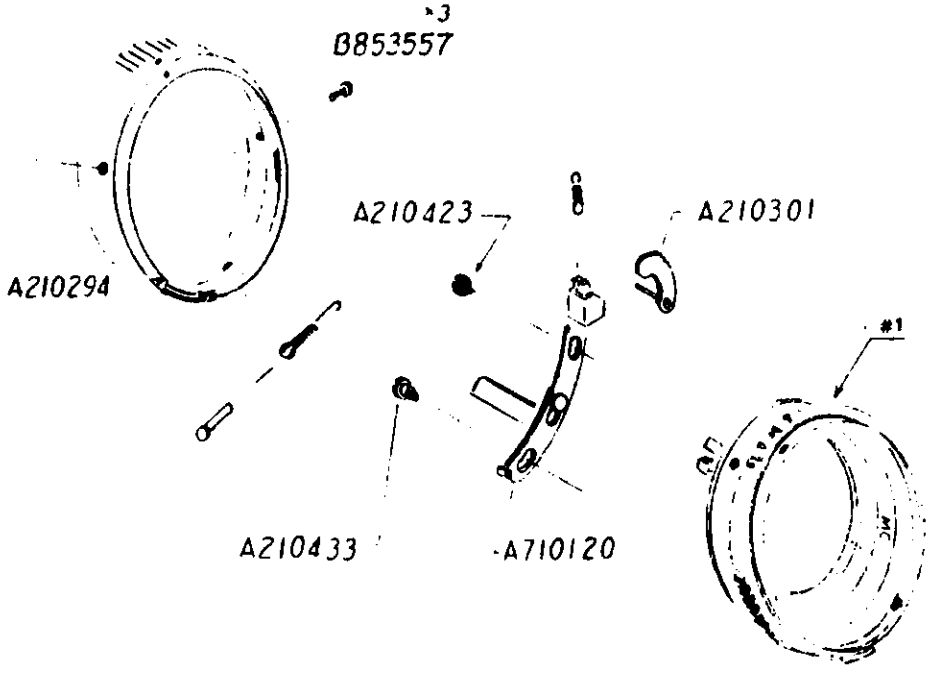
1) Loosen six B833407 screws.
2) Loosen four B893307 screws and detach the printed circuit board (#1).
3) Attach the printed circuit board to the replacement setting ring unit with the four B893307 screws which were detached in 2) above.
4) Align the lever sections (#2) of the setting ring unit to the grooves of the shutter assembly.
5) Repeat the setting and releasing actions and check the movement.



(2) Preset Action cannot be Confirmed (when Preset Lever is Pressed)

The shutter assembly is manually stopped down, by pressing preset lever (A210301) which, in turn, pushes preset arm set (A710120). Repair in the following manner (when the preset arm set does not move):—

1) Loosen three B853557 screws and detach the aperture ring block (#1).
2) Check movement of the preset arm set (A710120). If it does not move, then—
3) Loosen A210423 and A210433 screws and detach the preset arm set.
4) Since a change has been made in the surface painting of these three parts (in 3, above), they should all be exchanged for new replacement parts, in this case.
5) Assemble the aperture ring block while carefully checking alignment with the shutter actuating lever of the shutter assembly, the position of the time exposure lever and the positions of two aperture setting arms.



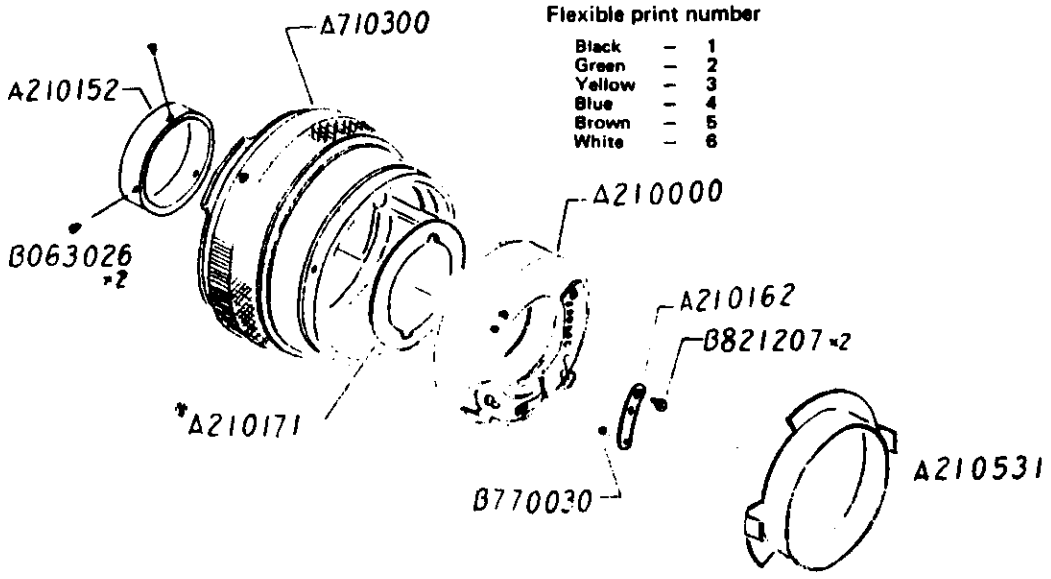
(3) Exchange of the Shutter Assembly

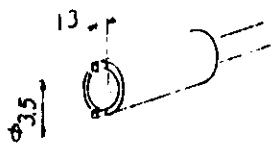
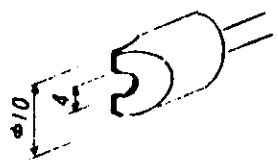
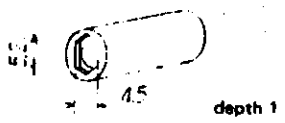
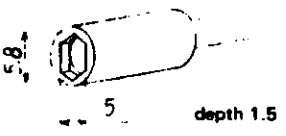
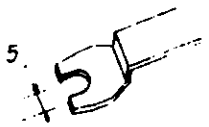
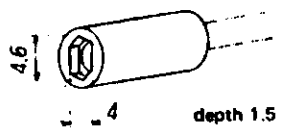
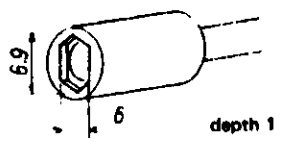
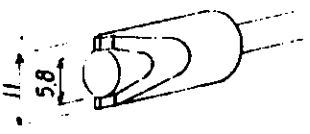
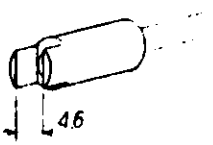
Disassemble the setting ring unit and aperture ring block, based on instructions in 1 and 2 preceding.

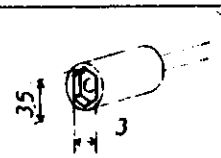
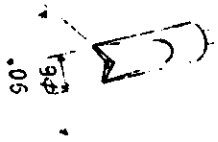
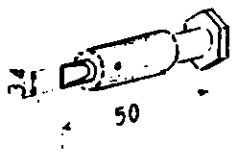
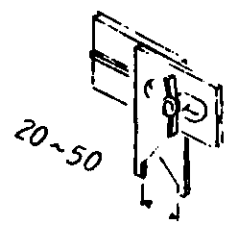
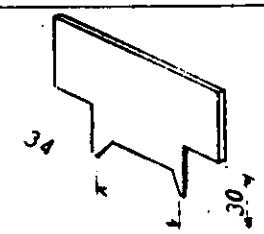
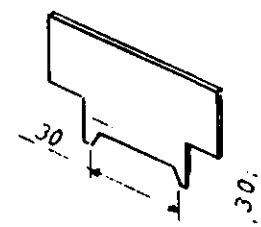
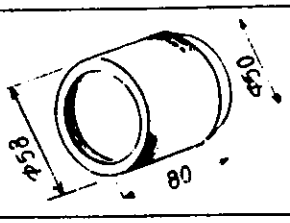
1) Detach light baffle ring (A210531) carefully so that it is not deformed. (Pull it out slowly as it is attached with bonding agent.)
2) Disconnect the six lead wires soldered to the printed circuit board.
3) Loosen two B063026 setscrews of the fixing ring (A210152) and revolve the fixing ring. The lens and shutter assembly will come out together, in this case.
4) Revolve the locking ring on the outside of the lens which will permet detachment of the lens.
5) Detach the time exposure click-plate (A210162) from the detached shutter assembly and attach it on the replacement shutter assembly.

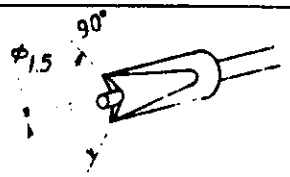
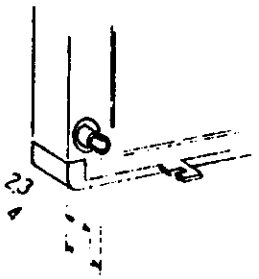
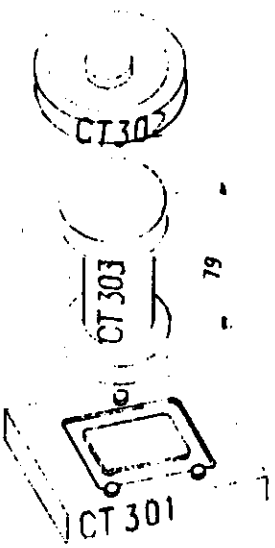
CAUTION:

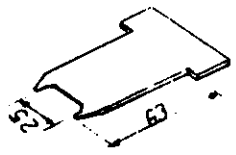
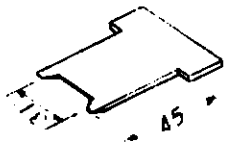
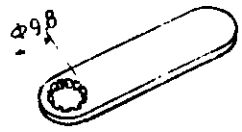
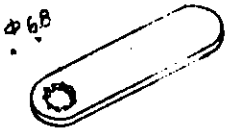
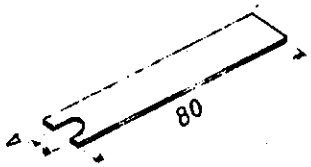
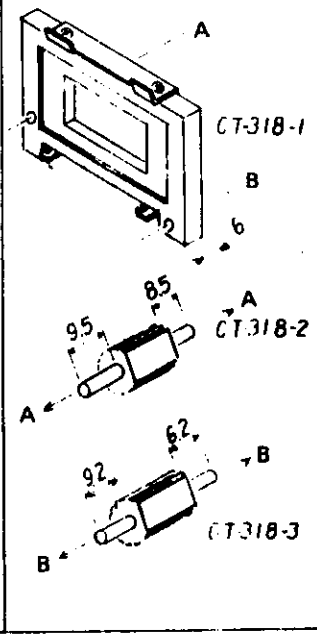
1) Do not change the thickness of the adjustment liners (A210171) even when the shutter assembly is exchanged.
2) The interval between lens elements is determined by the thickness of the shutter assembly. Therefore, screw in the lens element to its end so that there is no apparent clearance between the lens element and the shutter assembly.
3) Lens elements are only supplied with front and rear groups as a set, with the adjustment liners also specified at the time of exchange.

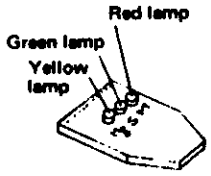
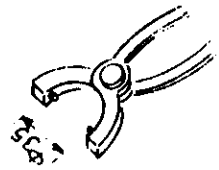
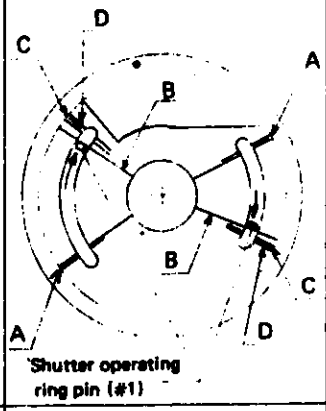


1-255670-AJ Screw driver		1-255670 for Crank catch setting screw.
1-256593-AJ Screw driver		1-256593 for Cable release socket.
1-255790-AJ Socket driver		1-255790 for Winding stopper claw spring holder. 1-230700 for Crank axle B (Speed grip).
1-250160-AJ Socket driver		1-250160 for Dark slide relay lever axle.
1-255230-AJ Wrench		1-255230 for Cam holding nut.
1-250130-AJ Socket driver		1-253561 for Bayonet pin spring holder 1-253772 for AE changeover rod guide.
1-252391-AJ Socket driver		1-750050 for Flash synchro socket (old type).
1-252394-AJ Screw driver		for Flash synchro socket (new type).
1-261550-AJ Screw driver		1-261552 for Dividing plate axle.

1-250211-AJ Socket driver		1-250211 for M switch lever axle.
1-256060-AJ Screw driver		1-256060 for Button ring nut.
1-253951-AJ Socket driver		1-253951 for Lens safety link guide.
1-251280-AJ Screw driver		1-251280 for Mirror arm setting screw.
1144-AJ Free size wrench		
1-210180-AJ-3 Wrench		for 75 mm Front lens ring nut.
1-210180-AJ-4 Wrench		for 75 mm Rear lens ring nut.
1-210482-AJ Rubber barrel		for Lens name ring.

1-260961-AJ Screw driver		1-260961 for F release cylinder B.
1-261611-CT Stroke adjusting tool		1-261600 for F release shaft A.
CT-301 -302 -303 Camera length standard		1-252227 Lens mount (Use with surface plate and dial gauge) Set dial gauge "0" with total length of 3 tools, then put camera body on the CT-301, and put CT-302 on the lens mount (1-252227) of the body, CT-303 is taken out. See dial gauge meter and adjust the length of the camera body.

1148-AJ-1 Wrench		for 250 mm
1148-AJ-2 Wrench		for 250 mm
1-252280-AJ Wrench		1-252280 for Shutter button ring. 1-254010 for Lens button ring.
1-254080-AJ Wrench		1-254080 for Lens release button.
1-253571 Wrench		1-253571 for Lens button shaft
CT-318-1 -2 -3 Back relay action testing tool		(Set CT-318-1 to camera body, and insert CT-318-2 and CT-318-3 to hole A or B.) CT-318-2, 9.5 mm Winding is stop, also release button is depressed. 8.5 mm Winding is not stop, also release button is not depressed. CT-318-3, 9.2 mm Back release button is depressed, also release button is not depressed. 6.2 mm Back release button is not depressed, also release button is depressed.

1-754500-PT M switch set adjusting tool		1-754500 for M switch set M switch set is adjusted following manner. (Set to camera body with battery.) When winding is charged, the red lamp is ON, and half depressing of release button, the red lamp is OFF, next the green lamp is ON, the yellow lamp is ON during the shutter is open.
1-210150-AJ-2 Wrench		1 210150 for shutter unit fixing ring.
CT-321 Winding stroke inspecting tool		(Set CT-321 to camera body without lens) 1) When mirror is upper position, the pin (#1) situates intervals A. 2) When winding is starting, the pin is resched line B simultaneously. 3) When winding is stop, the pin situates intervals C. 4) The pin is not over run line D under any conditions.